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iami.wordpress.com

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1. 2011

1.1 September

About (2011-09-07 13:13)

Last updated on 5th May 2014

I (author of this blog) am just a spiritual journeyman enjoying my spiritual journey.

I thought I could share some of my spiritual journey views with interested folks on the net and so this small website and blog.

Initially (till sometime around the beginning of 2014) I preferred to be anonymous as I thought that would allow for freer expression of sensitive views. I guess now I am comfortable with expressing the views of the type expressed here under my real name.

My name is Ravi S. Iyer and I am a software consultant living in Puttaparthi, Andhra Pradesh, India.

My spirituality and religion blogs

- 1) This blog, <http://iami1.wordpress.com>, is a humble exploration of and views on the God & Science conversation (done after August 2011), and little more. When teachings of religions or miracles mentioned in Holy Scripture are referred, as far as I recall, no mention is made of any contemporary or near-contemporary religious leader/founder - the attempt is to emphasize spiritual teachings/paths/philosophy/knowledge which may be viewed as universal though the Hindu way of expressing them is used. It must also be mentioned that a few posts are specific to Hinduism.
- 2) <http://ravisiyer.blogspot.com> is a blog about Bhagawan Sri Sathya Sai Baba and other spiritual & religious matters.

My software related blogs

- 1) <http://eklavyasai.blogspot.in/p/table-of-contents.html> - Peaceful and Amicable Indian Computer Science (CS) & Information Technology (IT) Academic Reform Activism. More particularly, the focus is on improving the practice of software development in Indian CS & IT academia.
- 2) <http://raviyerteaches.wordpress.com/> - Course material related to computer programming (software lab.) courses taught by me while I was offering free service as Honorary Staff/Honorary Faculty/Visiting Faculty to a Mathematics & Computer Science department in a deemed university in Andhra Pradesh, India, from 2003 to 2011.
- 3) <http://ravisiyer.wordpress.com/> (ravisiyer.org) - Currently mostly inactive. Free and Open Source Service to Society (especially Rural Indian society) applications developed through voluntary (Seva) offerings from interested contributors.

I am I (2011-09-07 13:15)

Who am I?

This is THE Great Existential Question of man.

Great Spiritual Masters and Sacred Scripture tell us:

Koham? Soham.

Who am I? I am He.

Some put it differently. They say:

Who am I? I am I.

As simple as that!!!

But it is simple only from an intellectual appreciation, thinking 'head' point of view. To REALLY UNDERSTAND IT one has to understand from the 'feeling' heart, from the 'feeling' depth of one's being, in the unchanging still awareness of our 'feeling' existence.

In fact, if the understanding is only intellectual then it can be viewed as a ridiculous statement and dismissed out-of-hand as something meant only for idiots & fools who are blinded by their beliefs. The ultimate answer to existence then can get grotesquely misunderstood.

The 'feeling' heart understanding may take months and years and decades and even multiple lifetimes, they say! Taming Desire in general and Lust in particular (Kaama), Anger (Krodha), Greed (Lobha), Infatuation (Moha), Pride (Madha) & Jealousy (Maathsarya) comes first. That ensures a calm beingness, a nearly thoughtless but 'feelingful' / 'beingful' state which allows one to unravel and disentangle the Body-Mind-Ego Delusion from one's existential reality. Then and then alone comes REAL UNDERSTANDING, they say.

That, they say, is the spiritual journey to the reality of not only one's existence but that of ALL EXISTENCE which is projected from the depths of our own being. They vehemently say, contemptuous of the ignorant and dismissive disbelief of most materialists and most material scientists, that this ultimate existential reality IS NOT OUTSIDE US in the outer/sensory material universe but within the depths of our own being. And the time taken for this journey to our spiritual center, they say, varies widely from person to person.

And some Great Masters say that at the very depth of our being we are Pure Love!!! That's it, they say. Nothing else exists but Pure Love. And to reach that understanding, that existential experience, that enlightenment, they say, take the path of Service (Seva) with Pure Love (Nirmal / Nishkaam Prema).

Faith in these sacred statements goes a long way in unraveling the Great Illusion (Maha Maya) that we are trapped in. The other great virtue is Patience - Patience of a tall order - Patience of months and years and even lifetimes. Shraddha and Saburi i.e. Faith and Patience, they say, can lead one to the goal of direct experience of existential reality (Atma Saakshaatkaar).

They say, Practise Pure Love as much as you can to experience your existential truth, your SACRED REALITY as PURE LOVE. As simple as that!!! From Outer Expression of Pure Love to Inner Experience of Divine Love.

Some time ago I heard some group sing,

“Love is the answer; Now, what was the question?”

What a Mahavaakya (Great pithy statement)! Perhaps it is at the level of the Great Upanishadic Mahavaakyas like Thath Thwam Asi (You are That).

Uday Kiran (2011-09-08 15:11:46)

I thought you would like this thought : We are not human beings on a spiritual journey, rather spiritual beings on a worldly journey (samsara)! :)

iami1 (2011-09-08 15:23:28)

Good one Uday!

Uday Kiran (2011-09-08 17:22:04)

I got the exact version: "We are not human beings on a spiritual journey. We are spiritual beings on a human journey." – Pierre Teilhard de Chardin

E.D. (2015-05-30 21:57:38)

just so well written.. I must come back and read more from your blog.. Eve

Ravi (2015-05-30 22:24:42)

Thanks, Eve.

Who am I interview - Robert Adams (2011-09-08 12:08)

Saw

a

nice

Advaita/Who am I related interview with a possibly self-realized person: <http://www.robertadamsinfinityinstitute.org/inner.directions.pdf>

Existential Intelligence & Other Human Intelligences (2011-09-26 23:06)

Howard Gardner seems to be famous in the West for identifying various human intelligences.

Extracts From Wikipedia: http://en.wikipedia.org/wiki/Howard_Gardner

Howard Gardner is an American developmental psychologist who is a professor of Cognition and Education at Harvard Graduate School of Education at Harvard University, Senior Director of Harvard Project Zero and author of over twenty books translated into thirty languages. Since 1995, he has been the co-director of the GoodWork Project. He is best known for his theory of multiple intelligences.

—

Gardner's Theory of multiple intelligences states not only do human beings have several different ways of learning and processing information, but these methods are relatively independent of one another: leading to multiple "intelligences" as opposed to a general intelligence factor among correlated abilities. Since 1999, Gardner has identified eight intelligences: linguistic, logic-mathematical, musical, spatial, bodily/kinesthetic, interpersonal, intrapersonal, and naturalistic. Gardner is still considering a ninth, or existential intelligence (the intelligence of "big questions"), but has not, as yet, added it.

—end extract from Wiki —-

BTW Gardner is closely associated with Harvard University's Project Zero. "Project Zero's mission is to understand and enhance learning, thinking, and creativity in the arts, as well as humanistic and scientific disciplines, at the individual and institutional levels." Here is the web site: <http://pzweb.harvard.edu/> with a link on the top related to Gardner winning some "social science" prize.

Here is an account of Gardner's multiple intelligences: <http://skyview.vansd.org/lschmidt/Projects/The%20Nine%20Types%20of%20Intelligence.htm> [One possible error here is that Existential Intelligence is listed as one type of intelligence whereas the Wiki page states that Gardner is still considering it.]

I find the above account to be easy to relate to and will use its terms below.

Great Spiritual Masters & Holy Scripture say that the highest wisdom is "Atma Vidya" which may correspond to a blend of "Existential Intelligence" as well as "Intrapersonal Intelligence" (Self Intelligence) in Gardner's terminology. But Gardner is not even sure about "Existential Intelligence" ("Big questions" - Who am I? perhaps) - I mean the wiki page states that he is still considering it.

Perhaps that's because of lack of exposure to Great Spiritual Masters. In the Ancient and Holy land (Punyabhoomi) of India/Bhaarath Existential Intelligence & Intrapersonal Intelligence is not only accepted as a valid form of intelligence over millenia but also accepted as the highest form of wisdom/intelligence/Jnana by a large majority of the populace.

The scientific temperament has brought great material progress and comfort to mankind. Perhaps due to that, in today's world logical-mathematical intelligence which is the key intelligence type for scientific temperament gets worshiped as the ultimate intelligence type by the vast majority of people! Some think that science alone can explain the mystery of life. Science gets worshiped and the other intelligences, especially the Existential Intelligence and the Intrapersonal Intelligence gets relegated to the background as relatively unimportant intelligences.

About the limits of human (logical-mathematical) intellect, J.B.S Haldane, the British Geneticist and Evolutionary Biologist has said, "My own suspicion is that the Universe is not only queerer than we suppose, but queerer than we can suppose." (Source: http://en.wikiquote.org/wiki/J._B._S._Haldane). IMHO, understanding life in all its bewildering variety, for example, at the biological level, from a 'material/measurable by senses' point of view and to the fullest extent is, in all probability, impossible. Further, it seems to me, that 'measurable by senses/physical devices' science will NEVER be able to uncover the ultimate existential truth(s) of the universe. As the universe is

queerer than we can suppose. Our human logical-mathematical brains are quite limited, after all.

Great Spiritual Masters & Holy Scripture say that "Atma Vidya" ("Existential Intelligence" & "Intrapersonal Intelligence", perhaps, to use Gardner's terms) can reveal our existential mystery and fill us with Love, Joy & Peace. Some Great Masters are also able to "see", what is perhaps, the Greatest Mystery of them all, the Law of Karma. I mean, they are able to "see" a life form's (e.g. human or animal) past births, its past actions and the fruits/effects of those actions that it has to experience in this or future births. Hindu Scripture has a lot of accounts of Sages (Rishis) having had this capacity/intelligence/wisdom.

Perhaps the wise path is to use logical-mathematical intelligence as a tool, and science & technology as tools, to improve the quality of material life and to make a living as an industry engineer/scientist or an academic scientist. But to also realize that science & technology and logical-mathematical intelligence has its limitations, no matter how impressive it seems, how "essential" it has become to life, and how many masses of people it awes. To increase Love, Joy & Peace in one's life and to eventually know and experience the existential reality of life it is "Atma Vidya", the highest type of wisdom/knowledge/intelligence, that has to be studied/cultivated, assimilated and practised.

iami1 (2011-09-27 13:56:22)

Rajendra Chittar commented via email: Wonderful. I am a great fan of Howard Gardner - have read all his books and have his best in my collection. There truly are multiple intelligences - not a single all-comprehensive one that can be measured by something called IQ. Yes, Gardner personally is convinced of the Existentialist intelligence but is looking for scientific evidence to back his claims - evidence of all kinds from neurology to archaeology to anthropology. Logical thinking too has its limitations and the limitations are revealed by logic itself - same applies to rational thinking. So, that leaves open the question about what particular quality(ies) make us aware of our self - the I - and though spiritual traditions have given their answer, the scientific traditions have yet to find theirs. Most biologists suspect that the I - in scientific terms - is an emergent property of individual qualities that interact with each others in given contexts - in an embodied brain.

iami1 (2011-09-27 14:44:26)

Interesting that you write that Gardner is personally convinced of the Existential(ist) Intelligence but is looking for scientific evidence to back his claims. But scientific evidence needs physical device measurements or, at least, large number of human 'samples'! So he probably will have to wait till physical devices which accurately measure the quality and quantity of Pure Love, Pure Joy (Paramananda) & Pure Peace are invented OR he has enough human 'samples' which exhibit Existential Intelligence in some form which can be independently confirmed by other observers :-). After all, science needs independent verification of results by other unbiased observers/experimenters, isn't it? IMHO Existential Intelligence can be felt in the spiritual hearts (emotional centers/'feeling' centers) of pure and committed seekers of Existential Truth & pure and committed Lovers of Existence as a form of the All-Pervasive Divine Power. That has been the experience of spiritual traditions of the East over millenia - and, I presume, the experience of spiritual traditions of the West over centuries, prior to Science & Technology running roughshod over those spiritual traditions in the West in the past few centuries.

Rajendra S. Chittar (2011-09-27 15:44:13)

Most existential intelligence is a personal experience - and if you have had that experience then you are more likely to accept that I have had it - when I explain my experience. Now, science also does the same - except that: 1) It is not necessary for you to have experienced it (much like a doctor may not have cancer but he knows it exists when he sees its evidence). 2) My words or expression will not be enough - it has to be backed by physical evidence. Now it is in this realm of physical evidence that no one can offer any. And science remains skeptical. However, there are quite a lot of scientists who - convinced by their own experience - suspect something like this exists. Perhaps this will remain that elusive bridge that needs to be built and crossed

for humanity to truly realise itself - on its two pillars - conviction of faith and conviction of science. Truly, a symbolic bridge to connect the left brain (where rationality is supposed to originate) and the right brain (where intuitive experiences rule). And only then the I shall be realised in its full glory.

2. 2012

2.1 August

Has Science Refuted Religion Debate (2012-08-09 22:10)

Last updated on 6th Sept. 2012

This is an epic debate available on youtube, "Has Science Refuted Religion?", around 2 hours, and held in or around March 2012, it seems.

Caltech Cosmologist Sean Carroll + Skeptic magazine editor-in-chief Michael Shermer are pitted against Conservative author Dinesh D'Souza and MIT physicist Ian Hutchinson.

Dinesh D'Souza, a Mumbai-born Konkani catholic now settled in the USA and converted to evangelical Christianity, spoke brilliantly in this debate, and, in my opinion, clearly showed that science has *not* refuted religion. He is a New York Times bestselling author and President of The King's College, a liberal arts college located in New York City,

It seems that Dinesh D'Souza has some rather controversial views on some topics, but most of his views in this debate seemed to make sense to me.

Prof. Ian Hutchinson of the Department of Nuclear Science and Engineering and Plasma Science and Fusion Center, Massachusetts Institute of Technology, also argued for the side that science has *not* refuted religion. His prepared statements (he read it) were brilliant. His book, "Monopolizing Knowledge" seems to be an interesting one. An interesting quote from the book's website, "Recognizing science's limitations, and properly identifying what we call nature, liberates both science and non-scientific knowledge."

I like the differentiation between scientific and non-scientific knowledge.

BTW Prof. Hutchinson is a Christian.

I found Dr. Michael Shermer, Editor-in-chief of Skeptic magazine, to be quite a nice chap in this debate. BTW he has done his PhD in the history of science! That's very interesting to me. He was a born again Christian in his young age but later turned to agnosticism/skepticism.

Dr. Sean Carroll is a theoretical cosmologist at Caltech. Very smart and gifted speaker.

iami1 (2013-10-28 15:57:13)

Here's an interesting debate on bad of religion vis-a-vis science in a mainstream south Indian newspaper: *) An article in The Hindu dated September 22nd 2013, focusing on the bad of religion and arguing for a society in the future "in which religion is not an issue", Let's aim for a post-theistic society. IIRC the author has a PhD in Physics from MIT, USA and is currently a

Professor of Physics in the prestigious (for India) science institution, Indian Institute of Science, Bangalore. *) A response in The Hindu dated October 13th 2013, to the above article, defending religion and arguing for having both science and religion, Blame it on politics, not religion.

God vs. Science, TIME, Nov. 2006, Dr. Collins - a standard bearer for scientists who believe in God (2012-08-09 22:34)

Last Updated on Sept. 4th 2012

I was forwarded this article, God vs. Science, TIME, Nov. 2006 by a friend. I find it to be an excellent one, though it is over 5 years back, to get some top-level view of the God vs. Science debate in the USA. Very interestingly the article has some excerpts of a discussion/debate between "God Delusion" top scientist Prof. Richard Dawkins, who also seems to have become the standard bearer of the anti-religion brigade now, and another, perhaps not so well known, but quite distinguished scientist, Dr. Francis Collins. Dr. Collins is a physician-geneticist who led the Human Genome Project and was nominated by US President Barrack Obama to and then unanimously confirmed by the US Senate as Director of the (US) National Institutes of Health in 2009 and, I believe, currently serves in that position. Dr. Collins is also an evangelical Christian.

The article, in its initial part, has an analysis of the "increasing insistence" of the anti-religion position of some scientists. It then refers to "scientism" as a response from the leaders of the religious faithful in this war between anti-religion scientists and religion.

It gives a background of Richard Dawkins and some other anti-religion scientists. They have their theological adversaries but most of whom may not be too much into science. Fascinatingly, for me at least, the article then takes the view of the majority of Americans who want a middle ground where they can have both science and religion. But for that the article needs to balance the tough Dawkins with distinguished scientists who are also deeply religious and may "credibly argue the widespread hope that science and God are in harmony—that, indeed, science is of God".

This is really great for me :). I have the strong belief and not just hope that "science and God are in harmony" and that "science is of God".

The article mentions a few distinguished scientists who are religious, finally zeroing in on Dr. Francis Collins. Then it gives some extracts of a 90 minute debate TIME magazine arranged between Dawkins and Collins.

A vital part of the debate, for me, is when TIME questions Collins about Resurrection, virgin birth etc. not being in line with science. Collins answers that if one believes that God made the natural laws then God can violate them too. [lami1: As simple as that. That is my strong belief too.]

Richard Dawkins then challenges Collins' scientific credibility because of his faith! [lami1: This is real fanatic stuff from Dawkins. Either you are a scientist or you are a loony-faith guy, there is no middle ground! Seems to me, if Dawkins has his way, anybody believing in any form of God will not be considered a credible/reliable scientist. Horrifying!!!]

Collins responds calmly. I love his balanced tone and content. Hats off to Collins!

At the end of the article TIME asks for concluding thoughts. I just loved the concluding thoughts of Collins. To view it, see page 9 of the article and read the top paragraph. I can fully identify with those words of Dr. Collins, though I have been a software-technologist for around a quarter of a century and not a top-scientist like Collins, and though my spiritual belief about the whys may differ in some respects from Dr. Collins' belief. My faith in God does

not compromise my ability in any way to think and function as a software-technologist (I am a believer in God for the past 15 to 20 years or so).

Wow!!! It is so great to have a standard bearer like Collins to take on the fanaticism of Dawkins in the rarified top scientists science-vs-religion war zone. It is almost as if a weight has been lifted off my mind :). I mean, one reads so much about Dawkins in the media nowadays and very little about top scientists who challenge him that I was wondering whether any top scientist had stood up and solidly refuted Dawkins. Now that I know that Collins and co. are refuting Dawkins I can easily point young scientists & intellectuals who are getting swayed by Dawkins & co. but have an open mind, to his refuters like Collins.

Thank you so much, TIME magazine, for this wonderful article.

Non-Scientific Knowledge Detection Kit - not Baloney Detection Kit! (2012-08-09 23:08)

I read an article of Dr. Michael Shermer of skeptic magazine, "Baloney Detection Kit".

I also saw a related video on skeptic.com and on youtube, which has been produced by The Richard Dawkins Foundation for Reason and Science.

They seem to be excellent aids to differentiate between scientific knowledge and non-scientific knowledge. It would have been appropriate to refer to it as non-scientific knowledge detection kit. But baloney? So these folks seem to be arrogantly dismissing any non-scientific knowledge as nonsense.

Toward the end of the above mentioned video, Dr. Shermer says, "Then there are things that are almost surely not true - like you know - psychic telepathy where I can read your mind - that sort of thing - those are surely not true. So you get this range of probably true to probably not true." He contradicts himself by saying something is surely not true and then having a range which excludes surely not true! Okay, I am being nit-picky about his words - but then I think in such a 'grand' fake-knowledge detection kit video he/editors should be careful about consistency of his statements.

Some people I know and trust have experienced that their minds could be read by a particular spiritual person - but those experiences are individual subjective experiences. There may be other "gifted" but very, very rare persons who have such mind-reading capability and which has been experienced by some persons. Now those who have experienced such mind-reading cannot prove that experience to others and so don't expect that strangers, who don't know about their honesty and integrity, will believe their experience. Their knowledge and experience in this regard are non-scientific but certainly not baloney :).

Jesus Christ, in my opinion, in all probability, performed "miracles". That is one of the main reasons, perhaps, why His apostles and their descendants/followers became such dedicated followers of Jesus Christ and spread the Christian faith in many, many parts of the world over centuries. Now the miracles of Jesus Christ may fail the "scientific knowledge test" especially from a distance of around 2 millennia but that does not mean it is baloney! Some people could hold a view that the miracles of Jesus Christ are probably not true as they don't have "scientific evidence". That seems to be a fair stand to me, even though I do not agree with it as I prefer to give value to historical & literary evidence which can be viewed as "non scientific evidence". But to say that it is nonsense is being rather illogical, in my opinion.

I hope the skeptic folks do not get offended but since they have used very harsh language I feel I have some license to use similar language. I think these folks are becoming so fanatical about science being the only true way to knowledge, implying any form of and all forms of knowledge, that they can be considered as illogical and against the pursuit of existential truth. Considering the respect that humanity holds for science & technology today, it would be a nice service to humanity if the esteemed scientists in these organizations don't get carried away and make science "the only true way" religion to all truth and all knowledge of existence.

Fantastic Espousal of the Good of Religion by Honourable Mr. Tony Blair in Nov. 2010 Debate (2012-08-09 23:49)

A few days ago, I saw this very interesting debate held on 26 Nov. 2010, "Christopher Hitchens vs Tony Blair Debate: Is Religion A Force For Good In The World?".

I congratulate honourable Mr. Tony Blair for his eloquent espousal of the good of religion in the face of very eloquent criticism of religion. I loved the way Mr. Blair accepted the valid parts of the criticism that the late Mr. Hitchens made but also put forward the good of religion quite powerfully and lovingly.

It was a joy to see such a debate being conducted in a civilized manner :). Usually such debates tend to become unsavoury. I congratulate both Mr. Blair and the late Mr. Hitchens for the civilized debate on such a sensitive topic.

A mail correspondent referred me to these reports on the 2010 Blair-Hitchens debate: [Guardian](#) and [heresy-corner](#).

My views on the debate are somewhat different.

Mr. Blair could be considered the loser judging by count of supporters vs. opponents - yes. Though I don't know whether the numbers changed after the debate. My interest was not really in such counts but in the valid points of the discourse, as I saw it.

Hitchens zeroed in on the known failings of organized religion, especially in the Western world. He slammed the Abrahamic religions from the scriptural authority viewpoint though I don't think the majority of believers of these religions interpret all of scripture literally. Perhaps it was just a debating strategy of his to zero in on this caricature of religious believers as people who interpret all of scripture literally and project it as if all believers are that way.

What I appreciated of Mr. Blair was that he accepted some of the valid points of Hitchens. But he was, at least in my view, able to put forward some important points. From what I recall of the debate, he made the following points that I liked:

- a) The way Hitchens spoke one would think that all religions are pure unadulterated evil! Mr. Blair made the point about a lot of good being done by religions, IMHO, to bring a reality-check into the discourse.

- b) He said that scriptural authority being interpreted literally (for each and every part of scripture) was not what most moderate religious believers approve (including him).
- c) Many times it is not religion that is the main issue but politics & social issues that cause conflict. He referred to both the Northern Ireland and the Israel-Palestine problems.
- d) He pointed out that removing religion from the picture, if at all that is possible, is no guarantee of such problems disappearing. He gave the example of Hitler and Stalin whose reigns of terror did not have any religious background.
- e) He acknowledged that certain wrongs had been issued from the pulpit like in Christian Rwanda problem of Hutu & Tutsi. But he also stated that in the same problem many religious people had defended people of the other tribe and some even lost their lives doing it.
- f) He advocated, if I recall correctly, focusing on the common good of religions and encouraging that.
- g) He said Darwin and Christian religion can go together.
- h) I felt that Mr. Blair presented the sober, moderate religious faithful view, which perhaps is the majority of religious believers in the Western world. He boldly took a stance which may not be supported by some rigid religious believers.

Hitchens was brilliant at his vitriolic criticism of religion. But then I felt he was playing to the gallery by using his brilliant command of the English language, his wit and his book-knowledge about religion (as against experiential-knowledge). He did not really respond, if I recall correctly, to Mr. Blair's moderate religious faithful view. Maybe the structure of the debate was such that you don't try to arrive at a meaningful solution but just attack the other party. So as a debater he perhaps did an excellent job in ensuring he 'scored' over the opponent.

But I felt Mr. Blair was the statesman looking for a solution rather than wanting to simply 'score' over his opponent.

The Tony Blair Faith Foundation seems to be a very interesting organization. Its website states that it, "Promotes respect and understanding about the world's religions through education and multi-faith action. We show how faith can be a powerful force for good in the modern world." I think such an initiative is a wonderful one. I pray to Almighty God to shower His Grace on The Tony Blair Faith Foundation to achieve its above-mentioned goals.

Francis Collins - The Language of God: A Scientist Presents Evidence of Belief, Caltech. 2009 - Transcript (2012-08-10 15:20)

This document is a transcript of a lecture by Dr. Francis Collins, an American physician-geneticist who was a leader of the Human Genome Project and is currently the director of the National Institutes of Health, USA, which "is the leading supporter of biomedical research in the world". The lecture was organized by the Veritas Forum and the venue was Caltech, USA in 2009. The youtube video link of his talk is: http://www.youtube.com/watch?v=EGu_VtbpWhE.

The Veritas Forum, www.veritas.org, has the copyright for the above lecture of Dr. Collins. They have kindly, over email, provided me permission to transcribe the lecture and use the transcription, including posting it on my blog, provided I don't charge for it or mass-produce it.

Transcript:

[Voice-over]

Welcome to the Veritas forum, engaging university students and faculty in discussions about life's hardest questions and the relevance of Jesus Christ to all of life.

[Applause]

[Dr. Francis Collins speaks:]

Thank you very much Christopher (for) that kind introduction and Good evening to all of you. Good heavens this place is really filled up with people, which is wonderful to see. And the students who have worked so hard to put this effort together, together with the Veritas organization must be very happy to see this turnout on a rainy evening out here in Pasadena.

We are here to talk about big questions. Maybe the biggest question of all - does God exist? I won't give you a proof tonight but I hope I will give you some things to think about - things that have led me from being an atheist to becoming a believer and a follower of Jesus. And I will try to explain to you that pathway in a fairly abbreviated form and also explain to you how I see no conflict between that perspective and that of a scientist who is rigorous in his views of data and won't allow you to put one over on me when it comes to views of nature. But who also sees that the study of nature is not all there is.

So come let us reason together here this evening and see what we might learn and as Socrates said let us follow the truth whither soever it leads. And, of course, Veritas means truth and I think that is very much what this forum stands for. I would like to start perhaps by telling you a little bit about the science that I have had the privilege of being involved in, which is the study of our human DNA instruction book, the human genome. When the popular press reports on this, as they increasingly have been doing since the study of the human genome has gotten pretty far along, they invariably have covers such as this one of Time magazine that use double-helix as the motif because that is after all the wonderful structure of this wonderful molecule - the instruction molecule of all living things. They also, in this instance, seem to be depicting Adam and Eve, which is interesting as a question mark perhaps about whether these things are connected and I will certainly argue that the faith and the science perspectives are appropriate to consider together. But I have a sneaking suspicion that they have another motivation because I also notice in other magazines that have covers about DNA they always feature not only double helixes but naked people (laughter from the audience).

And you can draw your own conclusion about what editors have decided about how to sell magazines. So we are gonna talk about this molecule. This amazing double helix shown here spilling out of the nucleus of the cell carrying the information that needs to be passed from parent to child, generation after generation by the series of these chemical bases here abbreviated A, C, G and T. And it is the order of those letters that basically must be there in order to provide the instructions to take each organism from its original rather simple beginnings as a single cell to a rather fancy organism like a human being. The genome of an organism is its entire set of DNA instructions. The human genome adds up to 3.1 billion of those letters. And that is a phenomenal thing to think about. If we decided we were going to read the human genome tonight because it would be a useful thing to admire, we would probably regret it after we got started if we had made a real commitment to do that because we would be here, reading at an

average pace of A, C, G, T, T and so on - 7 days a week, 24 hours a day for 31 years (laughter from the audience).

And we have that information now, which is a pretty amazing thing to say. And you have it. Even before we knew its sequence you had it already and it is inside each cell of your body. And every time the cell divides you got to copy the whole thing. And occasionally mistakes get made. And if they get made during your life, well, they may not cause much trouble. But if they happen to get made in a particularly vulnerable place they might start you on a path towards cancer. And if a mistake gets made in passing the DNA from parent to child, well then that child might end up with some kind of a birth defect. But once in a very long time that change might actually be beneficial and that, of course, is how evolution works, with gradual change applied to this DNA sequence over long periods of time, resulting in what Darwin put forward, by the means of natural selection, a gradual evolution and the introduction of new species.

So DNA is, if you are a biologist, kind of the center of the center here - in terms of trying to understand how the whole system works.

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The Human Genome project was proposed rather controversially in the late 1980s and most of the scientific community was deeply skeptical about whether this was a good idea or not. It might cost too much money. It might not be feasible. It might just attract mediocre scientists cause it seemed kind of boring. Well, none of those things turned out to be true. It certainly wasn't boring. And I am happy to report that, in fact, it went better than expected and for me as the person who had the privilege of serving as the project manager of this enterprise, to be able to announce not just a draft which we had in June of 2000 but a finished human genome in April 2003, exactly to the month fifty years after Watson and Crick described the double-helix, and completing all of the goals of the genome project more than 2 years ahead of schedule and more than 400 million dollars under budget, doggone it, which doesn't happen very often (applause).

And I could give you hours of descriptions of what's happened since April of 2003 in terms of taking this foundational information and building upon it particularly for medical benefit and for me as a physician that was one of the most exciting aspects of why we did this in the first place. I will spare you the details but I will say that I think the dream is beginning to come true of how this is going to apply for medical benefit because with these tools from the genome project we have been able, increasingly, and especially in the last couple of years to identify specific genetic risk factors for cancer, for heart disease, for diabetes, for asthma, for schizophrenia, for a long list of conditions that previously were very difficult to sort out. And in circumstances where knowing you are at high risk allows you to reduce that risk by changing your diet or your lifestyle or your medical surveillance, this opportunity to practice better prevention on an individualized basis is getting pretty exciting. And this is called personalized medicine and it applies not only to this kind of prevention but if you do get sick it may provide you with a better chance to get the right drug at the right dose instead of something that doesn't work or perhaps even gives you a toxic side-effect and that's what pharmacogenomics is about. And perhaps the biggest payoff in the long term, also the longest pipeline, is to take those discoveries of the real fundamentals of what causes these diseases and turn those into insights that will lead us to therapeutics be they gene therapies or drug therapies that are really targeted to the fundamental problem instead of some secondary effect. And we are beginning to see that now especially in the field of cancer. We will see much more of it over the coming decade. And I would predict that in another fifteen years, medicine will be radically different because of all of these developments stimulated by the genome project and with the scientific community plunging in with great energy and creativity to make the most of the opportunity.

So that's what I have had the chance to do over the last eighteen years involved in the genome project and before that, chasing down genes for disease. And that has been a wonderful experience as a professional working with lots of other skilled people. Making great friends and having the chance to learn new things about biology that were not known before.

But now let me ask you to look at these two images because we are about to talk about the world view question. I think this is a provocative way to begin to think about that because what you see are two images that look somewhat similar to each other. But they stand in for somewhat different worldview perspectives. This being, of course, a beautiful stained glass window, the rose window in Westminster cathedral. And this is an unusual view of DNA - not looking at it from the side but looking down the long axis of DNA so you see that radial pattern. And the question that many people pose, which I pose to you tonight, is - okay, those are two world views, the scientific and the spiritual. Do you have to choose? Do you have to basically throw in your lot with one or the other and neglect the other one or is there a possibility here of being someone who could merge these two, not necessarily building a firewall between them, but actually having both of those perspectives within your own experience.

I think many people today are arguing that these worldviews are at war and that there is no way to reconcile them. That has not been my experience. And that's what I particularly would like to share this evening and then I hopefully will have some time for questions from those of you who would like to pursue that in one way or another. So I think I owe you at this point a little bit more of a description about my spiritual perspective. I described my scientific pathway. How is it that I stand up here before you this evening in a distinguished university and talk about being a believer in God?

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Many of you might have assumed that the only scientists who were those who learned faith in childhood, would have it later on. But that's not my story. I was raised in a family that was wonderfully unconventional. My father had been a folk song collector in the 1930s in North Carolina. After the war he and my mother did the 60's thing except that it was still the 40's. And (laughter from the audience). I don't think it involved drugs but they did buy a dirt farm and try to live off the land (speaker laughs). And that didn't go very well. (They) discovered that it was not a credible way to have enough income to serve a growing family. I was born on that farm. By that time my father had gone back to teaching at the local college and my mother had started writing plays and they founded a theater in the grove of oak trees up above our farm house, which I am happy to say is about to have its 54th consecutive summer season. So I got raised in this wonderful mix of ideas of music, of theater, of the arts. My mother taught me at home until the sixth grade which was also very unconventional in the 1950's and she taught me to love the experience of learning new things. But the one thing I didn't learn much about was faith. My parents didn't really denigrate religion. But they didn't find it very relevant.

And so when I got to college I had those conversations that one has - even though I might have had some spiritual glimmers along the way, they quickly disappeared in those dormitory conversations where there is always an atheist who is determined to put forward that argument about why your faith is actually flawed and mine wasn't even there at all. So it was pretty easy (laughter from the speaker) for the resident atheist to dismiss my leanings of any sort. I was probably an agnostic at that point although I didn't know the word and then I went off to graduate school and studied physical chemistry and very much was involved in a theoretical approach to try and understand the behavior of atoms and molecules. And my faith really then rested upon second order differential equations (laughter from the audience) which are pretty cool by the way (speaker and audience laughs). Just the same, I became increasingly of a reductionist mode and materialist mode and I had even less tolerance then for hearing information of a spiritual sort and considered that to be irrelevant. Some cast ... appropriately should be cast-off information left over from an earlier time.

But then I had a change of heart as far as what I wanted to do professionally. I loved what I was doing in Chemistry but I discovered that Biology which I had pretty much neglected actually had a lot going for it. Recombinant DNA was being invented. There was some chance here that we might actually begin to understand how life works at a fundamental level. And realizing that that was a real calling for me and also that I wasn't sure whether I wanted to be a researcher or a practitioner, I went to medical school. That had not been part of my life plan and it's

still rather amazing the medical school let me in with that story. But they did.

I arrived in medical school as an atheist but it didn't last. Because in that third year of medical school I found myself, as one does, taking care of patients. Wonderful people with terrible illnesses - illnesses that medicine was not going to be able to solve in many instances. People who saw the approach of death, knowing what was coming and, to my surprise, seemed to be at peace about it, because of their faith. That was puzzling. And as I tried to imagine myself in that situation, I knew I would not be at peace. I would be terrified. And that was a bit disturbing but I tried to put it out of my mind until one afternoon when a wonderful elderly woman who was my patient who had very advanced heart disease, that we had run out of options for, and who knew her life was coming to a close, told me in a very simple, sincere way about her faith and how that gave her courage and hope and peace about what was coming. And as she finished that description she looks at me, sort of quizzically, as I sat there silently feeling a little embarrassed and she said, Doctor, I have told you about my faith and we have talked about my family and I thought maybe you might say something (laughter from the audience).

And then she asks me the most simple question, Doctor, what do you believe? Nobody had ever asked me that question before, not like that, not in such a simple, sincere way. And I realized I didn't know the answer.

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I felt uneasy. I could feel my face flushing. I wanted to get out of there. Ice was cracking under my feet. Everything was all of a sudden, a muddle, by this simple question, Doctor, what do you believe? So that troubled me and I thought about it a little bit and realized what the problem was. I was a scientist or at least I thought I was and scientists are supposed to make decisions after they look at the data, after they look at the evidence. I had made a decision that there was no God and I had never really thought about looking at the evidence. That didn't seem like a good thing. It was the decision that I wanted the answer to be but I had to admit that I didn't really know whether I had chosen the answer on the basis of reason or whether because it was a convenient form of, perhaps, willful blindness to the evidence. I wasn't sure there was any evidence but I figured I better go find out because I didn't want to be in that spot again.

So what did I do? Well, you know, I figured, there are those world religions. What do they believe, I better find out. And I tried to read through some of those sacred texts and I got totally confused and frustrated and there was no Wikipedia to help me either (Laughter from the audience). It's much easier now (speaker laughs lightly). There's even a book on the shelf called *World religions for Dummies*, but they didn't have that then either. So, at a loss, I knocked on the door of a minister, who lived down the road from me in Chapel Hill, North Carolina. And said, I don't know what these people are talking about but I figure it's time for me to learn. So, okay you must be a believer. At least I hope you are, you are a minister (both speaker and audience laugh). Let me ask you some questions. So I asked him a bunch of probably blasphemous questions and he was gracious about that. And, after a while said, you know you are on a journey here trying to figure out what's true. You are not the first one. And, in fact, I have got a book here written by somebody who went on that same journey from an academic perspective in fact. It was a pretty distinguished Oxford scholar. He found around him there were people who were believers and he was puzzled about that and he set about to try to figure out why people believe and figured that he could shoot them down and. Well, why don't you read the book and see what happened?

So he pulled this little book off the shelf and I took it home and began to read. And in the first two or three pages I realized that my arguments against faith were really those of a schoolboy. They had no real substance and the thoughtful reflections of this Oxford scholar whose name, of course, is C.S. Lewis, made me realize there was a great depth of thinking and reason that could be applied to the question of God. And that was a surprise. I had imagined faith and reason were at opposite poles. And here was this deep intellectual who is convincing me quickly, page by page, that actually reason and faith go hand in hand - though faith has the added component of revelation. Well, I had to learn more about that.

Over the course of the next year, kicking and screaming most of the way, because I did not want this to turn out the way that it seemed to be turning out, I began to realize that the evidence for the existence of God, while not proof, was actually pretty interesting. And it certainly made me realize that atheism would no longer be for me an acceptable choice. That it was the least rational of the options. I won't go through the whole chronology as it actually happened but let me summarize for you the kinds of arguments that ultimately brought me around to the position of recognizing that belief in God was an entirely satisfying (intellectual) event but also something that I was increasingly discovering I had a spiritual hunger for.

And interestingly, some of the pointers to God had been in front of me all along, coming from the study of nature. And I hadn't really thought about them but here they were. Here is one which seems like an obvious statement but maybe it is not so obvious.

There is something instead of nothing.

No reason that should be.

[Shown on screen:] "The unreasonable effectiveness of mathematics".

This phrase of Wigner, the Nobel laureate in Physics, caught my eye - because I had been involved, of course, as a graduate student working with Quantum Mechanics, with Schrodinger's equation. And one of the things that had appealed to me so much about mathematics and physics and chemistry was, how it was that this particular kind of depiction of matter and energy works. I mean, it really works well.

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And a theory that is correct often turns out to be simple and beautiful. And why should that be? Why should mathematics be so unreasonably effective in describing nature?

Hmm.

[Shown on screen:] The Big Bang

There's the Big Bang. The fact that the universe had a beginning as virtually all scientists are now coming to the conclusion, about 13.7 billion years ago in an unimaginable singularity where the universe smaller than a golf ball suddenly appeared and then began flying apart and has been flying apart ever since. And we can calculate that singularity by noticing just how far those galaxies are receding from us and things like the background microwave radiation, the echo of that big bang, and of course, that presents a difficulty because our science cannot look back beyond that point and it seems that something came out of nothing. Well, nature isn't supposed to allow that. So, if nature is not able to create itself, how did the universe get here? You can't postulate that that was created by some natural force or you haven't solved the problem because then okay, what created that natural force? So the only plausible, it seemed to me, explanation is that there must be some supernatural force that did the creating and, of course, that force would not need to be limited by space or even by time. Oh! Now we are getting somewhere. So, all right, let us imagine there is a creator, let us call that creator, God, who is supernatural, who is not bounded by space, not bounded by time and is a pretty darn good mathematician. And it is starting to make some sense here.

[Shown on screen:] The precise tuning of physical constants in the universe.

Well, God must also be an incredible physicist because another thing I began to realize by a little more reading is that there is this phenomenal fine tuning of the universe that makes complexity and therefore life, possible.

Those of you who study physics and chemistry will know that there is a whole series of laws that govern the behavior of matter and energy. They are simple beautiful equations but they have constants in them like the gravitational constant or the speed of light. And you cannot derive, at the present time, the value of those constants. They are what they are, they are givens. You have to do the experiment and measure them. Well, suppose they were a little different. Would that matter? Would anything change in our universe if the gravitational constant was a little stronger or a little weaker? Some days I think it is a little stronger but I don't think it really is.

So that calculation got done. Particularly in the 1970s by Barrow and Tippler and the answer was astounding. That if you take any of these fifteen constants and you tweak them just a tiny little bit, the whole thing doesn't work anymore. Take gravity, for instance. If gravity was just one part in about 10 billion weaker than it actually is then after the big bang there would be insufficient gravitational pull to result in the coalescence of stars and galaxies and planets and you and me. You would end up therefore with (an) infinitely expanding sterile universe. If gravity was just a tiny bit stronger, well, things would coalesce all right, but a little too soon. And the Big Bang would be followed after a while by a Big Crunch and we would not have the chance to appear because the timing wouldn't be right. And that's just one example. You can't look at that data and not marvel at it. It is astounding to see the knife edge of improbability upon which our existence exists.

So what's that about? Well, I can think of three possibilities. First of all, maybe theory will someday tell us that these constants have to have the value they have. That there is some a priori reason for that. Most physicists I talk to don't think that is too likely. There might be relationships between them that have to be maintained - but not the whole thing. A second possibility - perhaps, we are one of an almost infinite series of other universes that have different values of those constants and, of course, we have to be in the one where everything turned out right or we wouldn't be having this conversation. So that's the multiverse hypothesis. And it is a defensible one as long as you are willing to accept the fact that you will probably never be able to observe those infinite series of other parallel universes. So that requires quite a leap of faith.

The third possibility is that this is intentional. That these constants have the value they do because that creator, God, who is a good mathematician, also knew that there was an important set of dials to set here, if this universe that was coming into being was going to be interesting. So take those three possibilities and which of them seems most plausible.

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Apply Occam's razor, if you will, which says that the simplest explanation is most likely correct. Well, I come down on number three, especially because I have already kind of gotten there in terms of the other arguments about the idea of a creator. And this is interesting but of course, so far how far have we got? We have gotten to Einstein's God now. Because Einstein certainly marveled at the way in which mathematics worked. Einstein was not aware, as far as we know, of the fine tuning arguments, at quite this level. But probably would have embraced them in the same way.

But we haven't really gotten to a theist God yet. We have gotten to a deist God. So how do we get there? Well, now we come back to Lewis in that first chapter of *Mere Christianity*, which is called, right and wrong as a clue to the meaning of the universe.

[Shown on screen:] The moral Law.

And here what is being talked about is the moral law. I didn't take philosophy in college so I didn't really quite know what this was all about. But as I began to recognize what the argument was, it rang true. It rang true in a really startling way. One of those things where you realize I have known about this all my life but I have never really quite thought about it. So what's the argument? The argument is that we humans are unique in the animal kingdom

by apparently having a law that we are under although we seem free to break it because that happens every day. And the law is that there is something called right and there is something called wrong. And we are supposed to do the right thing and not the wrong thing. Again, we break that law, when we do, what do we do, we make an excuse. Which only means we believe the law must be true and we are trying to be let off the hook.

Now people will quickly object. Now, wait a minute. I can think of human cultures that did terrible things. How can you say they were under the moral law? Well, if you go and study those cultures, you will find out that the things that we consider terrible were, in their column, called right because of various cultural expectations. So clearly the moral law is universal but it is influenced in terms of particular actions and how they size up in the right and wrong assessment. Well, the moral law sometimes calls us to do some pretty dramatic things. Particularly in terms of altruism where you do something sacrificial for somebody else. What about that? People may argue, and they have and they will continue to, that this can all be explained by evolution. And those are useful arguments to look at.

So, for instance, if you are being altruistic to your own family, you can see how that might make sense from an evolutionary perspective because they share your DNA. So if you are helping their DNA survive, well it is yours too. And so that makes sense from a Darwinian argument about reproductive fitness. If you are being nice to somebody in expectation they will be nice to you later, a reciprocal form of altruism, well, okay, you can see also how that might make sense in terms of benefiting your reproductive success. You can even make arguments as Martin Novak has, at Harvard, that if you do computer modeling of things like the Prisoner's Dilemma you can come up with motivations for entire groups to behave altruistically toward each other. But a consequence of that and all the other models that have been put together is that you still have to be hostile to people who are not in your group. Otherwise the whole thing falls apart as far as the evolutionary drive for successful competition.

Well, does that fit? Is that what we see in our own experience? Where are those circumstances where we think the moral law has been most dramatically at work? I would submit they are not when we are being just nice to our family or just nice to people who are going to be nice to us. Or even just when we are being nice to other people in our own group. The things that strike us, that cause us to marvel and to say that's what human nobility is all about, are when that radical altruism extends beyond those categories.

When you see Mother Teresa in the streets of Calcutta picking up the dying, when you see Oscar Schindler risking his life to save Jews from the holocaust, when you see the good Samaritan. Or when you see Wesley Autrey. Wesley Autrey, a construction worker, African-American, standing on the subway platform in New York City and next to him, a young man, a graduate student, went into an epileptic seizure, and to the horror of everybody standing there, the student fell onto the tracks in front of an oncoming train.

With only a split second to make a decision, Wesley jumped onto the tracks as well, pulled the student still having the seizure in that small space in between the tracks, covered him with his own body, and the train rolled over both of them.

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And miraculously, there was just enough clearance for them both to survive. And here's a picture of the next day as Wesley describes the situation, standing next to the young man's father. This was clearly radical altruism. These people were of no acquaintance of each other, had no likelihood of seeing each other in any other circumstance and belong to different groups as we seem to define them here in our society, one being African-American, one being white. And yet, New York went crazy and they should. What an amazing act! What an amazing risky thing to do! Now evolution would say, Wesley you, what were you thinking? Talk about ruining your reproductive fitness opportunities (laughter). This is a scandal, isn't it? So think about that, again, I am not offering you a proof. But I do think when people try to argue that morality can be fully explained on evolutionary grounds, that's a little bit too

easy. That is a little bit too much of a just-so story. And perhaps it might ought to be thought about as potentially having some other reflected reason for its presence. And I would ask the question because Lewis asked it in his chapter. If you were looking not just for evidence of a God who was a mathematician and a physicist but a God who cared about human beings and who stood for what was good and holy and wanted his people to also be interested in what is good and holy, wouldn't it be interesting to find written in your own heart this moral law which doesn't otherwise make sense and which is calling you to do just that? That made a lot of sense to me.

So after going through these arguments over the course of a couple of years and it was that long, fighting them, oftentimes wishing that I had never started down this road cause it was leading me a place I wasn't sure I wanted to go. I began to realize that I had a certain series of immutable issues that were leading me in the direction of awe, awe of something greater than myself, reflected here by this phrase from Immanuel Kant, the philosopher, "Two things fill me with constantly increasing admiration and awe, the longer and more earnestly I reflect on them: the starry heavens without and the Moral Law within." My goodness, that's just where I was.

But I had to figure out then, okay if there is the possibility of this kind of God and a God who cares about humans, what is that God really like? And now it was time to go back to the world's religions and try to figure out what they tell us about that. And as I read through them, now somewhat better prepared, I could see there were great similarities between the great monotheistic religions and they actually resonated quite well with each other about many of the principles. And I found that quite gratifying, it was a big surprise because I had assumed they were radically different. But there were differences. Now about this time, I had also arrived at a point that was actually not comforting, which was the realization that if the moral law was a pointer to God and if God was good and holy, I was not. And as much as I tried to forgive myself for actions that were not consistent with that moral law they kept popping up. And therefore, just as I was beginning to perceive the person of God, in this sort of blurry way, that image was receding because of my own failures.

And I began to despair of whether this would ever be a relationship that I could claim or hope to have because of my own shortcomings. And into that area of increasing anxiety came the realization that there is a person in one of these faiths who has the solution to that. And that's the person of Jesus Christ. Who not only claimed to know God but to be God and who in this amazing and incomprehensible at first but ultimately incredibly sensible, uplifting sacrificial act, died on the cross and then rose from the dead to provide this bridge between my imperfections and God's holiness in a way that made more sense than I ever dreamed it could. I had heard those phrases about Christ died for your sins and I thought that was so much gibberish and suddenly, it wasn't gibberish at all. And so, two years after I began this journey, on a hiking trip in the Cascade mountains up in Oregon with my mind cleared of those distractions that so often get in the way of realizing what is really true and important, I felt I had reached the point where I no longer had reasons to resist and I didn't want to resist.

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I had a hunger to give in to this. And so that day, I became a Christian. That was thirty one years ago.

And I was scared. And I was afraid I was going to turn into somebody very somber and lose my sense of humor and (laughter) probably be called to Africa the next week or something, but (more laughter) instead I discovered this great sense of peace and a joyfulness about having finally crossed that bridge and also to have done so in a fashion that seemed to live up to my hopes that faith would not be something you had to plunge into blindly but something where there was in fact, reason behind the decision. And I guess I should have known it because as I began to learn a bit more about the Bible, I encountered this verse in Matthew, where Jesus is being questioned about which is the greatest commandment in the law. The Pharisees here trying to trap Jesus into saying something they can point out as being inconsistent with the Old Testament. And Jesus replies Love the Lord your God with all your heart and with all your soul and with all your mind.

Wow! There it was, all your mind. We are supposed to use our minds when it comes to faith. Mark Knowles has written a book called the scandal of the evangelical mind to suggest that perhaps we haven't done such a good job of that. And here it was, that's part of the commandment. Love the Lord with all your mind.

Well okay, this was an exciting time. But I was already a scientist and I was already interested in genetics. So as I began to tell all these people that I knew of this good news. They said, doesn't your head explode? (Laughter). You are in trouble boy, you are headed for a collision. These world views are not going to get along. And especially, isn't evolution incompatible with faith? What are you going to do about that? So I had a lot of those conversations, in fact I have continued to have those over the course of quite a few years. There was one in particular that left an indelible mark on me and I thought, just for fun, I would share it with you. Because the inquisitor in this case is somebody you might recognize. Somebody with rather quick intellect and a sharp way of trying to convey his point. And if you stay up late at night, you might have actually seen him before. Because he tends to come on - I don't know what times (over) in here but he comes on pretty late and it is Steven Colbert.

[Video shows a message to see the interview on youtube. Perhaps the interview was shown to the audience but clipped from this video.]

(Applause).

Well, that was a white knuckled experience. I thought when I went to be on Colbert that we would have a chance to talk about the plan before we are suddenly in front of millions of people but that's not how it goes. I was there in the green room waiting for him to turn up. The clock's ticking. It is five minutes before show time. He finally pops in and says, Oh! you are Collins. I am going to get you. You are gonna go down. (Laughter).

So that was the pre-interview and (laughter). So okay Steven, what really is your problem here? Let's talk about this. If evolution is such a stumbling block in this science-faith conversation, we better ask the question whether it is well founded or not. And certainly there are people saying evolution is on its last legs; evolution is known by scientists to have many flaws but nobody wants to admit it. What is (are) the actual facts of the matter? Well, I can tell you from my perspective as somebody who studies DNA that DNA has become probably the strongest window into this question that we could imagine. Darwin could not possibly have imagined a better means of testing his theory except maybe for a time machine. Because along comes DNA with its digital code and it provides us insights that are really quite phenomenal.

And, in fact, the bottom line is that DNA tells us that Darwin's theory was fundamentally right on target. We have not worked out some of the mathematical details of some of this. But I think it is fair to say that here in 2009, serious biologists almost universally see evolution as so fundamental that you can't really think about life sciences without it at the core. So what's some of the evidence to support what I just said? Well, looking at the fossil-record is one thing. I am not going to talk about that. I am going to talk about DNA because I think it gives us more detailed information. But the fossil record is entirely consistent with what I am going to say.

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We have after all, compared now the genomes of multiple organisms. [As he speaks the following the screen shows the cover of Nature or Science magazine issues with each, or almost each, of the genomes mentioned being on the cover of a separate Nature/Science issue!] We not only sequenced the human genome, but the mouse, the chimpanzee, the dog, the honeybee, the sea urchin, the macaque. Good heavens the platypus (laughter). And those are just the ones that made the cover of Nature or Science. There is now about thirty more. And when you put the DNA sequences into a computer and ask the computer to make sense out of it, the computer doesn't know what any of these organisms look like. Nor does it know about the fossil record. And the computer comes up with this diagram which is a tree, an evolutionary tree, consistent entirely with descent from a common ancestor. A tree that includes

humans as part of this enterprise. And which agrees in detail with trees that people have previously put together based upon anatomy or the fossil record.

Now, you could argue, and people certainly have, that that doesn't prove that common ancestry is right. If all those organisms instead were created by God as individual acts of special creation, it's entirely plausible that God might use some of the same motifs in generating those organisms' genomes and so the ones that looked most alike would have genomes that were most alike for functional reasons. And I could not refute that on the basis of this particular diagram. But let's look a little deeper. Let's look into the details of genes and also something called pseudo-genes and let me explain a particularly interesting feature of one little snippet of DNA as an example of this.

[Screen shows gene snippets of Human, Cow and Mouse.] So first of all we are looking here at three genes that happen to be in the same order in humans, cows, mice and quite a lot of other mammals as well. EPHX2, GULO and CLU are in that same order for these three species. Which in itself is, at least, suggestive of a common ancestor, otherwise why would these genes be clumped together this way. They are totally different in their functions. There doesn't seem to be any logical reason why they need to be near each other. But they are. But I chose this particular set of genes for a reason because they tell a very interesting story. Because for the cow and the mouse, all three of those genes are functional. For the human, the one in the middle, GULO, when you look at its DNA sequence, it is really messed up. [Screen shows part of GULO gene in human with a RIP image covering it partially] In fact, it is what we would call a pseudo-gene. About half of its coding region has been deleted. It's just not there. It cannot make a protein. It can't do much of anything except travel along from generation to generation as a little DNA fossil of what used to be there. Now, is there a consequence of this? BTW this is a downgrade not an upgrade. Most of our genes are not like this but this one tells a particularly interesting story.

So GULO stands for Gulonolactone Oxidase. What in the world is that? Well, that's the enzyme which is the final step in the synthesis of ascorbic acid or Vitamin C. And so, it is because of that pseudo-gene that deletion of GULO that those sailors got scurvy but the mice on the ship didn't. Because this is, for us, as humans, one of those things that apparently we got along fine without, except in unusual circumstances. A mutation arose, there was no evolutionary drive to get rid of it, and so it is one we now have, we humans are all together, completely deficient in being able to make Vitamin C, whereas other animals are not.

Now look at that picture and try to contemplate how that could have come about in the absence of a common ancestor. If you are going to argue that these are individual acts of special creation then you would have to say that God intentionally placed a defective gene in the very spot where common ancestry would have predicted it to be. And God would have to do that presumably to test our faith but that sounds like a God that I don't recognize. That sounds like a God who is involved in deception and not in truth. I could give you many more examples like this. But when you look at the details it seems inescapable that evolution is correct and that we humans are part of that.

[Screen shows: If evolution is true, does that leave any room for God?]

Well, if that's true, does that leave any room for God? There are certainly those who are using evolution as a club over the head of believers, [screen shows the cover of a book, The God Delusion, Richard Dawkins], Richard Dawkins perhaps being the most visible. This book has sold millions of copies. One of those rare books that does not need a subtitle to tell you what it's about (laughter). And Dawkins who is an incredibly gifted writer and articulator of evolutionary theory for the general public has shifted by the publication of this book into a very different space where he has become, really in a very antagonistic way, a critic of religion, not only claiming that it is unnecessary and ill-informed, but that it is evil.

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And religion is basically responsible for most of the bad things in the world. Dawkins uses science as a core of

his argument. Trying to demonstrate that in the absence of scientific proof of God's existence the default answer should be that there is no God.

But of course, there is a problem here. [Screen shows: Atheism is the most daring of all dogmas, for it is the assertion of a universal negative. – G.K. Chesterton.] One of the problems is as Chesterton points out, the assertion of a universal negative, which is a daring dogma indeed. The other problem is a category error. If God has any significance in most religions, God has to be, at least in part, outside of nature, not bound by nature. Pantheists might be an exception but most other religions would certainly agree that God is not limited therefore by nature itself. Science is. Science really is only legitimately able to comment on things that are part of nature and science is really good at that. But if you are going to try to take the tools of science and disprove God, you are in the wrong territory. Science has to remain silent on the question of anything that falls outside of the natural world.

[Screen shows: TIME magazine cover, God vs. Science.] Dawkins and I had a debate about this in TIME magazine, which is still up on the web, if you want to go and look at it. And basically (we) went back and forth about a number of the issues, but this was an interesting part because I really challenged him about how it was possible from a scientific perspective to rule out categorically the presence of God. And if you read the interview, at the end, he does say, well, he couldn't on a purely rational basis exclude the possibility of a supernatural being. But it would be so much grander and more complicated and awesome than anything humans could contemplate that it surely must not be the God we were all talking about (laughter). And I wanted to, you know, jump up and shout, Hallelujah, we have a convert, but I didn't (laughter).

But it does reveal something that I think is important to notice and that is that oftentimes when people are trying to disprove or to throw stones at belief, they caricature belief in a way that makes it very narrow and small minded and the sort of thing that a mature believer wouldn't recognize is the thing that is being torn apart. And of course, that's the old trick of the debater, you mischaracterize your opponent's position and then you dismantle it, and your opponent is left wondering, wait a minute, what happened there. I think that has very much been the case with the books by Hitchens and Harris and Dennet and by Dawkins himself, the four horsemen of the atheist apocalypse (laughter).

So, again, I would submit that if you want to be an atheist you cannot claim that reason completely supports your position. Because if the reason you were basing this upon is of science, it will fall short of being able to comment about God's existence.

So what then? How can evolution and faith be reconciled? Have I led us into a dilemma here? By talking about my own faith conversion and then telling you that I think evolution is true. Well actually no. Forty percent of scientists are believers in a personal God. Most of them, from my experience, have arrived at the same way of putting this together, a way that is actually pretty simple and almost obvious. But it's amazing how little it gets talked about. And it goes like this. Almighty God who is not limited in space or time created our universe 13.7 billion years ago with that fine-tuning, the parameters precisely set to allow the development of complexity over long periods of time.

[Screen shows: Almighty God, who is not limited in space or time, created a universe 13.7 billion years ago with its parameters precisely tuned to allow the development of complexity over long periods of time.]

All very intentional.

[Screen shows: God's plan included the mechanism of evolution to create the marvelous diversity of living things on our planet. Most especially, that creative plan included human beings.]

God's plan included the mechanism of evolution. That was the way in which the marvelous diversity of living

things on our planet was to come to be. And most especially, that plan included us, human beings.

[Screen shows: After evolution, in the fullness of time, had prepared a sufficiently advanced neurological "house" (the brain), God gifted humanity with free will and with a soul. Thus humans received a special status, "made in God's image".]

After evolution, in the fullness of time, which is a long time for us but maybe a blink of the eye for God, had prepared a sufficiently advanced neurological house, the brain, which would be pretty necessary for what's to come here, God then gifted humanity with free will and with a soul. Thus humans, at that point, received (their) special status, which in biblical terms, is made in God's image. But I don't think God is a kindly gentleman with a flowing white beard in the sky. I think made in God's image is about mind and not about body.

[Screen shows: We humans used our free will to disobey God, leading to our realization of being in violation of the Moral Law. Thus we were estranged from God. For Christians, Jesus is the solution to that estrangement.]

We humans, having been given those gifts, and here you will recognize the story of the garden of Eden, used our free will to disobey God, leading to our realization of being in violation of the Moral Law, and thus we were estranged from God.

Time marker: 00:50:02

For Christians, as I learned, as I was trying to figure this all out, Jesus is the solution to that estrangement.

That's it. A very simple but I think entirely compatible view that does no violence either to faith or to science and puts them in a harmonious position that both explains the way in which origins can be thought about and puts us in a position to be able to further explore the consequences.

Now this is often called "Theistic evolution". It is not a term that many people are all that comfortable with including me. Evolution is the noun, theistic is the adjective. Sort of sounds like you are tipping the balance there in the favor of the scientific view and a lot of people aren't quite sure what theistic means anyway. So maybe we need a better term. One possibility is to think about what this means. Well it means Life, Bios by God speaking us into being, the Logos. In the beginning was the word, the first chapter of John. Life through the word, Bios through Logos or just simply BioLogos. That is, perhaps, a useful alternative instead of theistic evolution. And in that regard, as the title of my book indicates, then maybe we could think about this universal code of life, the DNA molecule as the language of God.

Well, you were probably already thinking of objections. And that's good and I am sure we will hear a few more in a little bit. One of the things that trouble people about the synthesis - is this just a little too easy? Well, some people are troubled about the looong time that evolution seemed to require to do this and why would God be so slow in getting to the point. Well, after all that's our perspective. Because we are limited by this arrow of time where yesterday had to come before today and that had to come before tomorrow but remember that thing about God having to be outside of time in order to make sense as a creator. Well, that solves this one too. Because if God is outside of time then a process that seems really long to us may be incredibly short to God.

And tied along with that isn't evolution a purely random process and doesn't that take God out of it? Well, again it might seem random to us. But if God is outside of time, randomness doesn't make sense anymore and God could have complete knowledge of the outcome in a process that seemed random to us and I suppose in that way you could say God is inhabiting the process all the way along. I don't think this is a fundamental problem despite the way it is often portrayed as such.

[Screen shows: Can evolution account for highly complex biomachines like the bacterial flagellum?]

This is the intelligent design question. Can evolution really account for all of those fancy structures that we have inside our cells? The favorite poster child of I.D. being the bacterial flagellum. So what's the argument here? Well, the bacterial flagellum is this little outboard motor that allows bacteria to zip around in a liquid solution and that flagellum has about thirty-two proteins that must come together in just the right way for the whole thing to work.

And if you inactivate just one of those thirty two proteins, it doesn't work. So, in a simplistic way, you would really begin to wonder how this could ever come to pass on the basis of evolutionary steps because how could you have just by chance thirty one of those proteins coming along with no positive benefit and only when you got the thirty second one would something be of value in that organism would have a reproductive advantage. That doesn't seem to be mathematically feasible and it isn't if you think of it in those terms.

But as we study the bacterial flagellum and other examples like this, it becomes increasingly clear that this did not arise out of nowhere. That the parts of the bacterial flagellar motor have been recruited bit by bit from other structures and brought into this in a way that gradually built up its capacity to serve the function that we now so admire. And in that case that doesn't sound so different than the standard process of gradual change over time with natural selection acting upon it.

So, I.D. turns out to be, and I am sorry to say this for those who have found this a very appealing perspective, but I think it is the truth that I.D. turns out to be putting God into a gap in scientific knowledge which is now getting rapidly filled. And that God of the gaps approach has not served faith well in the past and I don't think it serves it well in this instance either. And unfortunately the church has in many ways attached themselves to I.D. theory as a way of resisting what was apparently a materialistic and atheistic assault coming from the evolutionists. But attaching yourself to an alternative theory which itself turns out to be flawed is not going to be a successful strategy and I think it is an unnecessary strategy.

Time marker: 00:54:57

Because if you think about it, I.D. is not only turning out to be science that is hard to defend it's also sort of an unusual kind of theology cause it implies that God wasn't quite getting it right at the beginning and had to keep stepping in and helping the process along because it wasn't capable of generating the kind of complex structures that were needed for life. Wouldn't it actually be a more awesome God who started the process off right at the beginning and didn't have to step in that way? I might think so.

And then the one that I think that is most of concern to believers and I am sure there are people in this room who are already in that circumstance and wondering, now wait a minute, how do you really rectify what you just said about evolution was Genesis 1 and 2? And probably resonated a bit with the caricature that Colbert was presenting of that view. Well, all of this comes down to, what does science say and what does the scripture say, and are they really in conflict? And that requires one to get deeply into the question of scriptural interpretation, what is the meaning of a verse, what was the intention of the author, who was it intended to be written to, what is the original language, what do those words mean in that language, does this read like history of an eye witness, does this read like something that is more mythical and lyrical and poetic? I am not an expert in that area of hermeneutics but there are a lot of people who have spent their lives on that. And ultimately when it comes down to that conflict between genesis and science, it does seem that the conflict primarily results from (an) interpretation that insists on a literal reading, and that literal reading is actually a relatively recent arrival on the scene with many deep thinkers in theology down through the centuries, not having the sense at all that that was a required interpretation. Furthermore, if you read Genesis 1 and 2 carefully, and do that tonight if you are interested, you will notice that there are two stories of creation, and they don't quite agree, in terms of the order of appearance of plants and humans. So they can't both

be literally correct. So maybe that's supposed to be a suggestion to us, as we read those that there is something more intended here than a scientific treatise.

Given all of that, I think it is entirely possible to take those words in Genesis and fit them together with what science is teaching us about origins. And I was particularly gratified as I was wrestling with that to run across the writings of Saint Augustine. Augustine was mentioned in the introduction in a wonderful quote read from Augustine by Professor Christoph Koch. And Augustine was obsessed about this question of Genesis - wrote no less than four books about it. And tried to figure out what the meaning was. And ultimately concluded that there was no real way to know precisely what was intended by those verses and warned in a very prescient way, 1600 years ago, that people should be very careful therefore not to attach themselves to a particular interpretation that might turn out, when new discoveries were made, to be indefensible.

[Screen shows: In matters that are so obscure and far beyond our vision, we find in Holy Scripture passages which can be interpreted in very different ways without prejudice to the faith we have received. In such cases, we should not rush in headlong and so firmly take our stand on one side that, if further progress in the search for truth justly undermines this position, we too fall with it. Saint Augustine, 400 AD, The Literal Meaning of Genesis.]

Here's that exhortation, writing about Genesis, In matters that are so obscure and far beyond our vision, we find in Holy Scripture passages which can be interpreted in very different ways without prejudice to the faith we have received. In such cases, we should not rush in headlong and so firmly take our stand on one side that if further progress in the search for truth, which sounds a bit like science, justly undermines this position, we too fall with it.

I wish that exhortation were referred to more often. So I have written about this in more detail in this book, The Language of God. I will give you two other books you might want to look at that refer to these issues in very thoughtful ways. One by my friend Darrel Falk who teaches at Point Loma called Coming to Peace with Science; another by Carl Giberson who teaches at Eastern Nazarene. This book just came out last summer called Saving Darwin. And of those of you who are scientists and are interested in being involved in conversations with other scientists, who are believers, trying to figure out how to fit this all together. Also (I) will give you the website of the American Scientific Affiliation [Screen shows www.asa3.org] which counts some several thousand members who have this same perspective and have a wonderful journal and annual meetings to talk about these issues in deep ways.

So I am actually encouraged that we are having this conversation here at Caltech. I am encouraged that there seems to be an interest as evidenced by all of those who have turned out this evening in having the conversation. I am troubled by the fact that the stage often seems to be occupied by those at the extremes of the spectrum.

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On the one hand, atheists who are arguing that science disproves God, on the other hand, fundamentalists who say that science can't be trusted because it disagrees with their interpretation of particular scripture verses. But I think there is hope here for having this conversation go somewhere. Another thing that I have had the privilege of doing is to start a foundation called the BioLogos foundation. Coming soon, in about a month, there will be a web site with that url which will provide suggested answers to the thirty three most frequently asked questions that I have received in the last two years about science and faith from more than three thousand emails. And I hope that will turn out to be a useful resource for people who want to dig deeper than we have been able to go to this evening. [Screen shows: Coming soon: www.biologos.org] And I hope you will also in a follow up to this evening, if you are interested in this topic, take advantage of some of the opportunities that the students have put together and also seek out ways to continue the conversations with students and, if you are interested, in churches around here - there are many of them as well that have this kind of a topic as an open area for discourse.

This is the most important question that we started with. Is there a God? My answer to that is yes. I can't prove it. But I think the evidence is fairly compelling. If this is a question that interests you and you haven't necessarily spent a lot of time on it, I would encourage you to. It's probably not one of those you want to put off to the last minute. After all, you might get a pop quiz along the way (laughter).

But I am delighted that the Veritas forum provides this kind of opportunity for discussion and that Caltech has welcomed this kind of conversation to happen here tonight. And I thank all of you for your kind attention. (Applause).

Time marker: 01:01:48

[Another gentleman comes up the stage and thanks Dr. Collins. Then he starts the Q & A session. The Q & A session has not been transcribed in this document.]

iami1 (2013-10-28 16:04:53)

Here's an interesting March 2011 article by E.H. Ecklund, Associate Professor of Sociology, Rice university, Religious Scientists: Faith in the American University. The author argues that unwillingness of academic scientists who are religious to talk openly about their faith may be partially responsible for "uninformed conversations about religion and science on university campuses" in the USA.

One can be a Rigorous Scientist and a Believer in God - Dr. Francis Collins (2012-08-11 00:42)

Last updated on 15th Nov. 2012

Anti-religion scientists like Richard Dawkins are being given a lot of prominence in the media. Some of these persons have got so carried away with the phenomenal achievements of science and their own intellectual brilliance that they believe and argue that science disproves God. And that God is a Delusion! Further they sometimes question the scientific credibility of any scientist who believes in God!

Such a fanatical atmosphere can scare whatever spiritual leanings young scientists have. Senior scientists and academics have significant amount of influence on the careers of young scientists & academics. If being a believer in God marks one as a not-so-credible scientist to senior scientists then many young scientists will give up their religion or spirituality.

Dr. Francis Collins is among a few leading scientists who are taking on the anti-religion scientists like Dawkins and giving young scientists the courage to be religious as well as be a rigorous scientist. While Dr. Collins is an evangelical Christian I feel many of his views will be extremely helpful for young and old scientists of other religions and sects as well.

Dr. Francis Collins has a Ph.D. in physical chemistry from Yale University in 1974, and is also a physician earning his M.D. (Doctor of Medicine) from University of North Carolina at Chapel Hill in 1977. He followed these degrees with a distinguished research career in genetics. His Wikipedia page states, "Francis Sellers Collins (born April 14, 1950), is an American physician-geneticist noted for his discoveries of disease genes and his leadership of the Human Genome Project (HGP)." He is currently the director of the National Institutes of Health (NIH), USA, which "is the leading supporter of biomedical research in the world". This Scitable, Nature Education page gives another

interesting view of his research contributions.

He has received many honors including the US National Medal of Science in 2008 and US Presidential Medal of Freedom in 2007. His contributions have also been recognized by the Catholic church. His wiki states, "In 2009 Pope Benedict XVI appointed Collins to the Pontifical Academy of Sciences".

The post, "Francis Collins – The Language of God: A Scientist Presents Evidence of Belief – Transcript", provides the text of a brilliant lecture of Dr. Collins, titled, "Francis Collins – The Language of God: A Scientist Presents Evidence of Belief" given at Caltech (California Institute of Technology), USA in 2009. The youtube video link of the lecture is: http://www.youtube.com/watch?v=EGu_VtbpWhE. I have given below a condensed version of the talk focusing on the spiritual/religious angle with a few comments of mine prefixed with iami1. Perhaps some persons may find this condensed version more suitable to read than the whole transcript.

The Veritas Forum, www.veritas.org, has the copyright for the above mentioned lecture of Dr. Collins. They have kindly, over email, provided me permission to transcribe the lecture and use the transcription, including posting it on my blog, provided I don't charge for it or mass-produce it.

In the beginning, Collins gives a quick introduction to the main theme of his talk. "We are here to talk about big questions. Maybe the biggest question of all – does God exist? I won't give you a proof tonight but I hope I will give you some things to think about – things that have led me from being an atheist to becoming a believer and a follower of Jesus. And I will try to explain to you that pathway in a fairly abbreviated form and also explain to you how I see no conflict between that perspective and that of a scientist who is rigorous in his views of data and won't allow you to put one over on me when it comes to views of nature. But who also sees that the study of nature is not all there is."

He then describes his study of DNA, Darwinian evolution, the fantastic Human Genome Project that he led/managed and the benefits that medicine may see from the results of the Genome project.

Then he moves to the vital point of the lecture. "And the question that many people pose, which I pose to you tonight, is – okay, those are two world views, the scientific and the spiritual. Do you have to choose? Do you have to basically throw in your lot with one or the other and neglect the other one or is there a possibility here of being someone who could merge these two, not necessarily building a firewall between them, but actually having both of those perspectives within your own experience. I think many people today are arguing that these worldviews are at war and that there is no way to reconcile them. That has not been my experience. And that's what I particularly would like to share this evening and then I hopefully will have some time for questions from those of you who would like to pursue that in one way or another."

Collins then describes his childhood when he was not really into faith. He moves to college later. "And so when I got to college I had those conversations that one has – even though I might have had some spiritual glimmers along the way, they quickly disappeared in those dormitory conversations where there is always an atheist who is determined to put forward that argument about why your faith is actually flawed and mine wasn't even there at all. So it was pretty easy for the resident atheist to dismiss my leanings of any sort."

Collins moves to graduate school and studies physical chemistry. "Just the same, I became increasingly of a reductionist mode and materialist mode and I had even less tolerance then for hearing information of a spiritual sort and considered that to be irrelevant. Some cast ... appropriately should be cast-off information left over from an earlier time."

Collins later gets interested in Biology and DNA and moves from Chemistry to medical school. He arrives in medical school as an atheist. But as he starts taking care of patients and sees how patients see the approach of death

with peace due to their faith, he is puzzled. He says that he felt he would be terrified if he was in their position.

One afternoon, "a wonderful elderly woman who was my patient who had very advanced heart disease, that we had run out of options for, and who knew her life was coming to a close, told me in a very simple, sincere way about her faith and how that gave her courage and hope and peace about what was coming. And as she finished that description she looks at me, sort of quizzically, as I sat there silently feeling a little embarrassed and she said, Doctor, I have told you about my faith and we have talked about my family and I thought maybe you might say something."

And then she asks me the most simple question, Doctor, what do you believe? Nobody had ever asked me that question before, not like that, not in such a simple, sincere way. And I realized I didn't know the answer."

Collins is shaken by that simple, sincere question. "Everything was all of a sudden, a muddle, by this simple question, Doctor, what do you believe? So that troubled me and I thought about it a little bit and realized what the problem was. I was a scientist or at least I thought I was and scientists are supposed to make decisions after they look at the data, after they look at the evidence. I had made a decision that there was no God and I had never really thought about looking at the evidence. That didn't seem like a good thing. It was the decision that I wanted the answer to be but I had to admit that I didn't really know whether I had chosen the answer on the basis of reason or whether because it was a convenient form of, perhaps, willful blindness to the evidence. I wasn't sure there was any evidence but I figured I better go find out because I didn't want to be in that spot again."

So Collins tries to read up on world religions and ends up getting "confused and frustrated". He then goes to a minister who gives him the book, "Mere Christianity" by C.S. Lewis, who was a distinguished Oxford scholar who tried to figure out "what's true".

Collins starts reading the book. "And in the first two or three pages I realized that my arguments against faith were really those of a schoolboy. They had no real substance and the thoughtful reflections of this Oxford scholar whose name, of course, is C.S. Lewis, made me realize there was a great depth of thinking and reason that could be applied to the question of God. And that was a surprise. I had imagined faith and reason were at opposite poles. And here was this deep intellectual who is convincing me quickly, page by page, that actually reason and faith go hand in hand – though faith has the added component of revelation."

"Over the course of the next year, kicking and screaming most of the way, because I did not want this to turn out the way that it seemed to be turning out, I began to realize that the evidence for the existence of God, while not proof, was actually pretty interesting. And it certainly made me realize that atheism would no longer be for me an acceptable choice. That it was the least rational of the options."

Collins puts down, what in his view is, some of the evidence for the existence of God:

There is something instead of nothing.

The unreasonable effectiveness of mathematics. (in describing nature)

The Big Bang. ... "So the only plausible, it seemed to me, explanation is that there must be some supernatural force that did the creating and, of course, that force would not need to be limited by space or even by time."

The precise tuning of physical constants in the universe. ... "That these constants have the value they do because that creator, God, who is a good mathematician, also knew that there was an important set of dials to set here, if this universe that was coming into being was going to be interesting."

The moral Law. ... "The argument is that we humans are unique in the animal kingdom by apparently having a law

that we are under although we seem free to break it because that happens every day. And the law is that there is something called right and there is something called wrong. And we are supposed to do the right thing and not the wrong thing. Again, we break that law, when we do, what do we do, we make an excuse. Which only means we believe the law must be true and we are trying to be let off the hook."...."If you were looking not just for evidence of a God who was a mathematician and a physicist but a God who cared about human beings and who stood for what was good and holy and wanted his people to also be interested in what is good and holy, wouldn't it be interesting to find written in your own heart this moral law which doesn't otherwise make sense and which is calling you to do just that? That made a lot of sense to me."

On the moral law Collins quotes "this phrase from Immanuel Kant, the philosopher, 'Two things fill me with constantly increasing admiration and awe, the longer and more earnestly I reflect on them: the starry heavens without and the Moral Law within.' My goodness, that's just where I was."

With the above evidence of the existence of God, Collins "had to figure out then, okay if there is the possibility of this kind of God and a God who cares about humans, what is that God really like?". Then he goes back to the study of the world's religions, sees that "there were great similarities between the great monotheistic religions and they actually resonated quite well with each other about many of the principles."

Collins says very frankly, "Now about this time, I had also arrived at a point that was actually not comforting, which was the realization that if the moral law was a pointer to God and if God was good and holy, I was not. And as much as I tried to forgive myself for actions that were not consistent with that moral law they kept popping up. And therefore, just as I was beginning to perceive the person of God, in this sort of blurry way, that image was receding because of my own failures." [iami1: What an honest man Collins comes across as!]

Collins continues in this vein which eventually leads him to opening his heart to Jesus Christ! "And I began to despair of whether this would ever be a relationship that I could claim or hope to have because of my own shortcomings. And into that area of increasing anxiety came the realization that there is a person in one of these faiths who has the solution to that. And that's the person of Jesus Christ. Who not only claimed to know God but to be God and who in this amazing and incomprehensible at first but ultimately incredibly sensible, uplifting sacrificial act, died on the cross and then rose from the dead to provide this bridge between my imperfections and God's holiness in a way that made more sense than I ever dreamed it could. I had heard those phrases about Christ died for your sins and I thought that was so much gibberish and suddenly, it wasn't gibberish at all. And so, two years after I began this journey, on a hiking trip in the Cascade mountains up in Oregon with my mind cleared of those distractions that so often get in the way of realizing what is really true and important, I felt I had reached the point where I no longer had reasons to resist and I didn't want to resist. I had a hunger to give in to this. And so that day, I became a Christian. That was thirty one years ago."

[iami1: Wow! That's a tremendously moving description, to me at least, of how Collins takes that final plunge and becomes a Christian (a believer in God).]

Collins then "discovered this great sense of peace and a joyfulness about having finally crossed that bridge and also to have done so in a fashion that seemed to live up to my hopes that faith would not be something you had to plunge into blindly but something where there was in fact, reason behind the decision. And I guess I should have known it because as I began to learn a bit more about the Bible, I encountered this verse in Matthew, where Jesus is being questioned about which is the greatest commandment in the law. The Pharisees here trying to trap Jesus into saying something they can point out as being inconsistent with the Old Testament. And Jesus replies Love the Lord your God with all your heart and with all your soul and with all your mind. Wow! There it was, all your mind. We are supposed to use our minds when it comes to faith."

Now Collins starts to share his faith with his "people". "But I was already a scientist and I was already inter-

ested in genetics. So as I began to tell all these people that I knew of this good news. They said, doesn't your head explode? (Laughter). You are in trouble boy, you are headed for a collision. These world views are not going to get along. And especially, isn't evolution incompatible with faith? What are you going to do about that?"

Collins has many conversations on evolution and faith.

He supports evolution saying, "And, in fact, the bottom line is that DNA tells us that Darwin's theory was fundamentally right on target. We have not worked out some of the mathematical details of some of this. But I think it is fair to say that here in 2009, serious biologists almost universally see evolution as so fundamental that you can't really think about life sciences without it at the core."

He gives details of DNA evidence for evolution and then concludes, "But when you look at the details it seems inescapable that evolution is correct and that we humans are part of that."

Collins then looks at the argument of some people, "If evolution is true, does that leave any room for God?" He says, "There are certainly those who are using evolution as a club over the head of believers, Richard Dawkins perhaps being the most visible. This book ('The God Delusion') has sold millions of copies. One of those rare books that does not need a subtitle to tell you what it's about. And Dawkins who is an incredibly gifted writer and articulator of evolutionary theory for the general public has shifted by the publication of this book into a very different space where he has become, really in a very antagonistic way, a critic of religion, not only claiming that it is unnecessary and ill-informed, but that it is evil. And religion is basically responsible for most of the bad things in the world. Dawkins uses science as a core of his argument. Trying to demonstrate that in the absence of scientific proof of God's existence the default answer should be that there is no God."

Collins states that one problem with such an argument is that it is the assertion of a universal negative. [iami1: I didn't understand that initially. According to my understanding of the explanation here, <http://www.allaboutphilosophy.org/atheism.htm>, assertion of a universal negative requires one to be all-knowing. In other words, one can assert that there is no God only if one is all-knowing (omniscient), which Dawkins does not claim to be, as far as I know.]

Collins then says that another problem with the argument is that it is a category error. "If God has any significance in most religions, God has to be, at least in part, outside of nature, not bound by nature. Pantheists might be an exception but most other religions would certainly agree that God is not limited therefore by nature itself. Science is. Science really is only legitimately able to comment on things that are part of nature and science is really good at that. But if you are going to try to take the tools of science and disprove God, you are in the wrong territory. Science has to remain silent on the question of anything that falls outside of the natural world." [iami1: As simple as that. So claims that science has disproved or will disprove God are delusions.]

Collins then talks about a debate with Dawkins, "And if you read the interview, at the end, he (Dawkins) does say, well, he couldn't on a purely rational basis exclude the possibility of a supernatural being. But it would be so much grander and more complicated and awesome than anything humans could contemplate that it surely must not be the God we were all talking about."

He continues, "But it does reveal something that I think is important to notice and that is that oftentimes when people are trying to disprove or to throw stones at belief, they caricature belief in a way that makes it very narrow and small minded and the sort of thing that a mature believer wouldn't recognize is the thing that is being torn apart. And of course, that's the old trick of the debater, you mischaracterize your opponent's position and then you dismantle it, and your opponent is left wondering, wait a minute, what happened there. I think that has very much been the case with the books by Hitchens and Harris and Dennet and by Dawkins himself, the four horsemen of the atheist apocalypse.

So, again, I would submit that if you want to be an atheist you cannot claim that reason completely supports your position. Because if the reason you were basing this upon is of science, it will fall short of being able to comment about God's existence."

Then Collins moves on to the question, "How can evolution and faith be reconciled?" He says many scientists believe that:

"Almighty God, who is not limited in space or time, created a universe 13.7 billion years ago with its parameters precisely tuned to allow the development of complexity over long periods of time."

"God's plan included the mechanism of evolution to create the marvelous diversity of living things on our planet. Most especially, that creative plan included human beings."

"After evolution, in the fullness of time, had prepared a sufficiently advanced neurological 'house' (the brain), God gifted humanity with free will and with a soul. Thus humans received a special status, 'made in God's image'."

"We humans used our free will to disobey God, leading to our realization of being in violation of the Moral Law. Thus we were estranged from God. For Christians, Jesus is the solution to that estrangement."

[iami1: Hindu Advaita Vedanta, IMHO, is not in conflict with Big Bang and Darwinian evolution. However Hindu beliefs have a different view on only humans having a soul, and a different take on the "estrangement from God". Two big differences between traditional Christian and Hindu beliefs, IMHO, are Karma and reincarnation.]

Collins states that this theory/belief is often called "Theistic Evolution". He proposes a new term, "BioLogos". He also gets into some intricacies of this theory. He moves on to discuss Intelligent Design and concludes, "So, I.D. turns out to be, and I am sorry to say this for those who have found this a very appealing perspective, but I think it is the truth that I.D. turns out to be putting God into a gap in scientific knowledge which is now getting rapidly filled. And that God of the gaps approach has not served faith well in the past and I don't think it serves it well in this instance either. And unfortunately the church has in many ways attached themselves to I.D. theory as a way of resisting what was apparently a materialistic and atheistic assault coming from the evolutionists. But attaching yourself to an alternative theory which itself turns out to be flawed is not going to be a successful strategy and I think it is an unnecessary strategy."

Collins then advises against literal interpretation of Genesis 1 and 2. He quotes Saint Augustine, "In matters that are so obscure and far beyond our vision, we find in Holy Scripture passages which can be interpreted in very different ways without prejudice to the faith we have received. In such cases, we should not rush in headlong and so firmly take our stand on one side that, if further progress in the search for truth justly undermines this position, we too fall with it. Saint Augustine, 400 AD, *The Literal Meaning of Genesis*."

Collins says, "I am troubled by the fact that the stage often seems to be occupied by those at the extremes of the spectrum. On the one hand, atheists who are arguing that science disproves God, on the other hand, fundamentalists who say that science can't be trusted because it disagrees with their interpretation of particular scripture verses. But I think there is hope here for having this conversation go somewhere."

He summarizes, "This is the most important question that we started with. Is there a God? My answer to that is yes. I can't prove it. But I think the evidence is fairly compelling. If this is a question that interests you and you haven't necessarily spent a lot of time on it, I would encourage you to. It's probably not one of those you want to put off to the last minute."

Collins thanks the organizers and the audience, "But I am delighted that the Veritas forum provides this kind of opportunity for discussion and that Caltech has welcomed this kind of conversation to happen here tonight. And I thank all of you for your kind attention."

iami1 (2012-08-14 13:49:29)

A friend wrote over email: Thanks Ravi for your blog. It was a good read. While science looks at external nature, spirituality looks at internal nature. So when a scientist explores internal nature he is bound to discover God.

"The God Delusion". What Does it Really Mean? (2012-08-14 00:24)

Last Updated On 16th August 2012

"The God Delusion", http://en.wikipedia.org/wiki/The_God_Delusion, by Prof. Richard Dawkins, http://en.wikipedia.org/wiki/Richard_Dawkins, is a famous book for the anti-religion tribe as well as many open-minded truth-seekers. It is a provocative title which is a complete statement. Considering that the author is a distinguished scientist whose statements carry a lot of "weight" with the public, I am of the opinion that it is fair for me to examine the validity of the title though I have not read the book itself (just had a quick glance at its table of contents and a little bit of its preface yesterday). However, I am aware that some may opine that it is not fair for me to comment on the title of the book without reading the book. I beg to respectfully disagree with them.

As a person who has had subjective experience of an interventionist supernatural power (which is commonly referred to as God or Divine power), I had initially thought that the title of the book itself is a falsehood. I planned to write to Prof. Dawkins, via the Contact email id of richarddawkins.net, seeking to know whether he considered the title to be a "scientifically valid" statement. I had thought that if my message did reach him and he deigned to respond, he would have to say no because I presumed that the title meant that he is saying that a supernatural interventionist power is a falsehood i.e. God does not exist or There is no God. As far as I understand the approach of science, Prof. Dawkins cannot disprove the existence of a supernatural power. BTW I am a computer software-technologist and not a scientist.

But then a correspondent, who kindly engaged with me on this matter over email, rightly pointed out that I should first find out the definitions of the words 'God' and 'delusion' before I ask Prof. Dawkins the "scientifically valid" question. I thank him for this advise.

By God, in this book-for-the-common-man context, the definition of supernatural creator and (interventionist) overseer/ruler of the universe (<http://en.wikipedia.org/wiki/God>, <http://dictionary.reference.com/browse/god>) seems to be an appropriate one to take, I guess.

While I, not incorrectly, thought delusion to mean false belief, there are multiple definitions which vary in a subtle way. Two of the relevant ones, in my humble opinion, are given below:

- 1) <http://en.wikipedia.org/wiki/Delusion>: A delusion is a belief held with strong conviction despite superior evidence to the contrary.
- 2) <http://dictionary.reference.com/browse/delusion>: A false opinion or belief.

Let me examine meaning 2 first as that is what I had previously gone by and I think many 'common' people (not experts in delusion like psychiatrists) would have gone by the same. By meaning 2, 'The God Delusion' can be taken to mean, 'The false belief in a supernatural power'. The implication, to my mind, is: 'The belief in a supernatural power is false'.

People who went by this meaning would have felt that the learned and distinguished scientist, Prof. Dawkins, has *declared* that the belief in God (supernatural power) is false. That may have convinced some of them to go by the authority of the learned and distinguished scientist that Prof. Dawkins is, and give up any faith they had in a supernatural power.

If such an effect has been created by the title of Prof. Dawkins' book I would like to state that the distinguished physician-geneticist, Dr. Francis Collins, http://en.wikipedia.org/wiki/Francis_Collins, has clearly stated in his lecture, organized by Veritas Forum at Caltech in 2009, "The Language of God: A Scientist Presents Evidence of Belief", <http://iam1.wordpress.com/2012/08/10/francis-collins-the-language-of-god-a-scientist-presents-evidence-of-belief-transcript/>, that science cannot disprove God. Those readers who felt Dawkins has disproved God can study the lecture of Collins and know that Dawkins has *not* disproved God. So, in my humble analysis, this meaning of the book title, 'The God Delusion', which is, 'The belief in a supernatural power is false' is itself a falsehood.

Going by meaning 1 of the word, 'delusion', 'The God Delusion' can mean 'The belief held with strong conviction in a supernatural power despite superior evidence to the contrary'. The implication, to my mind, is: 'The belief in a supernatural power is being held (by some/all believers) with strong conviction despite superior evidence to the contrary'.

Perhaps some people have taken this meaning which, I think, is an opinion that the learned and distinguished scientist, Prof. Dawkins, can, in all fairness, profess. He may have presented his case for superior evidence for the absence/non-existence of a supernatural power in his book.

For those people who have had subjective experiences of the intervention of supernatural power, they *know* from experience of the presence of a supernatural power and so don't need to look at logical arguments & evidence for the absence of a supernatural power. But such persons seem to be a very small minority in the world. The rarity of such supernatural experiences makes almost all of those who have not had such experiences and who seem to be the vast majority, to naturally doubt the supernatural experiences of the very small minority.

Further, as far as I know, there does not seem to be any objective, "scientific" evidence under "controlled conditions" acceptable to science to prove ("scientifically prove") that supernatural events have occurred. So scientists like Dawkins who seem to have not had supernatural experiences themselves, are certainly entitled to entertain doubts about the veracity of subjective supernatural experiences of others. But some other people, including some scientists, who are willing to consider "non scientific" sources of knowledge like "reliable" eyewitness accounts may get convinced of the existence of supernatural power even if they have not had individual experience of supernatural power.

I believe scientists and others consider eyewitness testimony to be a lesser standard of proof than "scientific evidence". In some cases, eyewitness testimony may be false. But that does not mean that all eyewitness testimony is false. In general, there may be some cases where claims of supernatural experiences or miracles are false. But that does not mean all claims of supernatural experiences or miracles are false.

Those who have not had supernatural experiences and thus lack subjective evidence of supernatural power, and prefer to trust only "scientifically proven" knowledge, will want to go by objective evidence of the presence of supernatural power or objective evidence of the absence of supernatural power.

Of course, other authors have other opinions on the matter. Collins, in his book, "The Language of God: A Scientist Presents Evidence for Belief", http://en.wikipedia.org/wiki/The_Language_of_God:_A_Scientist_Presents_Evidence_for_Belief, seems to be presenting evidence for existence of a supernatural power (I have not read the book yet but have studied his lecture on the same topic). Collins, in his lecture mentioned above on the same topic, clearly states that he presents evidence but *not* proof for the existence/presence of God. The reader may or may not agree with the opinion espoused by either Dawkins or Collins, on the basis of the "evidence but not proof" presented in their books and lectures.

I don't know whether Dawkins, when he decided on the title of his book, was aware that some readers of his book title may go by meaning 2 above ('The belief in a supernatural power is false'). If he did then perhaps it would have been more ethical/truthful of him to have changed the title to something else which did not lend itself to such a meaning which is a falsehood.

Sasikanth Gudla (2014-09-02 11:00:26)

Sir, you might be interested in Fritjof Capra's works - am not sure though. http://en.wikipedia.org/wiki/Fritjof_Capra

Ravi (2014-09-02 15:25:45)

Thanks for the comment Sasi. Capra's Tao of Physics is a very famous book. But I have not read it (or don't recall reading it) or his other works. Now its difficult for me to make time to read his works - maybe later sometime.

Wrong Science Being Taught in Some Faith Schools (2012-08-25 22:23)

Last Updated On August 27th 2012

At the time, slightly over a week ago, when I wrote the post, "The God Delusion". What Does it Really Mean?, I was not well informed about how some schools (some, but not all, faith schools) in the UK and USA teach *wrong* science (I had read a few reports here and there in the past but had not studied the matter carefully).

Later, I studied some of the views expressed by Prof. Dawkins & others including a correspondent who kindly spared his time to share with me how *wrong* science is being taught in some faith schools in the USA and UK. I did some browsing of my own too. Some of these findings are given below.

Prof Dawkins with a British Faith School

From around 6:57 in the video below Prof. Dawkins is with a British faith school. It shows the, in my humble opinion, very odd spectacle of children, the school science teacher and the principal all "believing" evolution to be false since it apparently conflicts with their interpretation of their holy book.

Richard Dawkins: Faith School Menace? (2 of 4), <http://www.youtube.com/watch?v=B47pptxhgP8&feature=relmfu>

I feel this is *wrong* science being taught in a science class and strongly disapprove of it.

Salt Water and Fresh Water Not Mixing In The Sea

I was quite taken aback when I saw this video where a child says that salty water and fresh water do not mix in the sea, as an aspect of science derived from a holy book, in front of Dawkins and her science teacher, <http://www.youtube.com/watch?v=Jlr1PZxFDEA> &feature=relmfu. Now there seems to be some scenarios at estuaries where the body of river water (fresh water) does not easily mix with the body of sea water (salt water), <http://cms.oregon.gov/dsl/ssnerr/docs/efs/efs33mix.pdf>. But if the teaching was that salty water and fresh water always do not mix because there is some barrier between the two then I have to agree with one correspondent's strong words of "misrepresentation of facts, undermining of science, ...".

I believe Prof. Dawkins is of the opinion that holy book interpretations (of various religions) should be reconciled to science. My humble opinion is that well established knowledge ("facts") of science should be seriously considered by religious scholars and spiritual masters who interpret holy books of religions. Theories of science which still have significant room for doubt is a different matter.

Miracles of Religious Figures

Whether a religious figure performed miracles or not is a different matter. That need not be part of a science class but should be part of a Religious Education (R.E.) class, in my humble opinion. Science, as far as I understand it, has not disproved and cannot disprove that religious figures performed miracles.

One serious disagreement I have with Prof. Dawkins' views is when he states that religious books should be treated as "fiction", implying that the entire books should be treated as "fiction". That is unacceptable to many believers including me. He is free to treat it as fiction but he has no scientific basis or any right to impose his opinion (that the entire content of religious books be treated as "fiction") on the community.

Young Earth Creationism

I am given to understand that some schools in the USA teach children Young Earth Creationism, http://en.wikipedia.org/wiki/Young_Earth_creationism. Given the fact that widespread scientific consensus opposes this theory I am very surprised to note that such theories may currently be taught as science in USA (and UK perhaps). I oppose teaching such theories as science unless these theories gain widespread scientific acceptance.

Recently I saw this video of Mr. Ken Ham lecturing a fairly large audience with many youngsters. "Evolution vs Creation - It is a Fact that the Dinosaurs Lived With Humans - Young Earth Creation", <http://www.youtube.com/watch?v=C5d3AaAL10U>

From 1:28 in the above video, Mr. Ham provides an argument based on a holy book that dinosaurs lived with people. This, according to my understanding of science, is *wrong* science being taught, though this is not in a 'school' environment.

The Creation Museum, http://en.wikipedia.org/wiki/Creation_Museum, is also promoting *wrong* science, according to my understanding of science.

Conclusion

I greatly appreciate the efforts of Prof. Dawkins and his foundation for reason and science to ensure that science is taught properly in schools in UK and USA, including faith schools. Where I do differ with Prof. Dawkins is his view of belief in God being a "delusion".

Quentin (2012-08-27 14:06:43)

You may be interested to drop in on www.secondsightblog.com, where regular discussions on science and faith matters take place. While most of the contributors appear to be Catholic, they welcome other denominations (or none), because it gives a wider range of views.

iami1 (2012-08-27 15:13:54)

@Quentin: I presume you mean <http://secondsightblog.net/>. It seems to be an exhaustive blog on the "mutual exploration into the reconciliation between science and faith". I will certainly study it sometime later. I guess you are the author/main author of that blog. It is a privilege to have your comments on my blog, sir.

Quentin (2012-08-26 23:06:41)

You will be heartened to know that some 70 years ago when I attended a Jesuit-run Catholic school I asked about the Bible and evolution. The good priests told me that evolution was a strong theory and in no way incompatible with the Genesis story when this is properly understood. I later discovered that St Augustine (4th century) taught clearly that those who taught Christian doctrine which contradicted well established science not only looked stupid but brought scorn on Christianity. I have 5 children, all grown up, all educated in Catholic schools. Not one of them was taught that Genesis should be understood literally. I say this because you may be making the "Dawkins error". That is, looking at the extreme cases and presenting them as if they were typical. That is as foolish as my claiming that all atheists reject moral choice because they all reject free will. It is of course only those who reject free will who deny that they are able to make moral choices.

iami1 (2012-08-27 10:58:03)

Thank you so much Mr. Quentin for sharing your valuable experiences and views. I certainly am very heartened to know that seven decades ago in a Jesuit-run Catholic school, evolution was seen and taught to be compatible with the Holy Bible, when interpreted appropriately, and that this *right* science teaching has continued across generations in Catholic schools. I have modified a sentence in this post slightly by using the phrase, "(some, but not all, faith schools)", to avoid the wrong impression being conveyed that my brief study had led me to believe that all faith schools in UK and USA teach *wrong* science. I am happy to know of your view, sir, that Prof. Dawkins may be presenting extreme cases as typical. I hope that is true, in which case, the severity of the *wrong* science being taught in some, but not all, faith schools problem would be much lesser than what Prof. Dawkins and co. seem to be making it out to be (in UK and USA). Noted your reference to St. Augustine's teachings. Dr. Collins, a top-notch scientist, who has publicly opposed Prof. Dawkins' "God Delusion" views, also referred to St. Augustine's teachings in his Caltech. 2009 lecture, <http://iami1.wordpress.com/2012/08/10/francis-collins-the-language-of-god-a-scientist-presents-evidence-of-belief-transcript/>.

Crisp Statements of Belief in God that is Compatible with Science (2012-08-28 16:33)

Last Updated On August 31st 2012

The BioLogos Foundation, <http://biologos.org/>, seems to be a very interesting evangelical Christian community which is 'committed to exploring and celebrating the compatibility of evolutionary creation and biblical faith, guided by the truth that "all things hold together in Christ."

I very much liked the "What We Believe" section of <http://biologos.org/about>. I presume that the views of the BioLogos founder would have had a significant bearing on this section and so I felt it appropriate to give the below information about its founder. However, there are many other distinguished persons associated with BioLogos whose

views too would have had a bearing on its "What We Believe" section, I presume.

BioLogos Founder

BioLogos was founded in 2007 by Dr. Francis Collins, <http://biologos.org/blog/author/collins-francis>, who I view as one of the outstanding scientists of our times who seems to have led a balanced life of science and God, and who seems to have made quite some efforts to share his belief with the community at large that Christian faith and science can go together, and has also convincingly refuted claims of some scientists that "in the absence of scientific proof of God's existence the default answer should be that there is no God" [1]. Dr. Collins clearly asserts, "But if you are going to try to take the tools of science and disprove God, you are in the wrong territory. Science has to remain silent on the question of anything that falls outside of the natural world." [1]

Dr. Francis Collins has a Ph.D. in physical chemistry from Yale University in 1974, and is also a physician earning his M.D. (Doctor of Medicine) from University of North Carolina in 1977. He followed these degrees with a distinguished research career in genetics. His wiki states "Francis Sellers Collins (born April 14, 1950), is an American physician-geneticist noted for his discoveries of disease genes and his leadership of the Human Genome Project (HGP)." He is currently the director of the National Institutes of Health (NIH), USA, which "is the leading supporter of biomedical research in the world". He does not seem to be holding any major position currently in the BioLogos foundation (to avoid any controversies, I guess). This Scitable, Nature Education page gives another interesting view of his research contributions.

He has received many honors including the US National Medal of Science and US Presidential Medal of Freedom. His contributions have also been recognized by the Catholic church. His wiki states, "In 2009 Pope Benedict XVI appointed Collins to the Pontifical Academy of Sciences".

What We Believe Adapted to a Multi-Faith/Universal Faith View

Here, it is appropriate for me to first mention that this blog and I do not have any direct affiliation with The BioLogos Foundation, at the present time or in the past. But I am deeply appreciative of whatever I have examined in the website of The BioLogos Foundation and am thankful to them for their wonderful service to society in promoting faith in Christ that is compatible with science. I am also thankful to them for having their "What We Believe" section freely accessible on the Internet which enables people like me to consider adapting it, as given below, for a multi-faith/universal faith perspective in a way that carefully respects their copyright.

I am a multi-faith person with a belief that there is one Almighty God which is expressed and/or experienced in sometimes similar and sometimes slightly different ways by believers, followers and teachers of different religions. I believe in the divinity of major figures of many religions and find a lot of commonality in the essence of the teachings of different religions with *Love*, perhaps, being the most powerful common theme of the teachings of most, if not all, religions.

I have made a humble attempt to adapt the "What We Believe" section of BioLogos to a multi-faith/universal faith view. Due to copyright restrictions I have mentioned whether the points of the BioLogos, "What We Believe" section referred by their associated numbers, can be used as is or whether it needs to be adapted, and used a few phrases from the points, appropriately quoted. If it needs to be adapted I have humbly suggested the kind of change needed. In most cases I have also given some comments. It is suggested that the points in the sections below be read side by side with the corresponding point in "What We Believe" section of BioLogos.

I realize that I could, of course, be making some mistakes, but I thought it may be an interesting starting point for some people who are very happy with the BioLogos beliefs but believe not only in the divinity of Jesus Christ but also in the divinity of some other figures of various faiths.

1. This would need to be adapted to refer to an allegorical interpretation of holy scripture of various faiths.
2. No change needed. Wonderful view of nature as an expression of God.
3. This may not be in line with the beliefs of some faiths.
4. This would need to be adapted to refer to historical incarnations of figures from various faiths.
5. No change needed. This is the intervening God belief. I think this belief in God who answers prayers is a vital point.
6. No change needed. Addresses the natural laws creator part as well as the supernatural/miracles part.
7. This would need to be adapted to refer to traditions of other faiths too where "faith and science are mutually hospitable". The acceptance of science as a reliable tool to "investigate and describe" the natural/material world but the rejection of Scientism is an important part here. The wiki defines Scientism partly as "the view that empirical science constitutes the most authoritative worldview or most valuable part of human learning to the exclusion of other viewpoints" which, IMHO, is a *wrong* and *harmful* view. Some of its supporters go to the extent of making false statements that science has debunked or refuted God and religion.
8. No change needed. Clearly states the belief that God is actively involved in the world *now*.
9. No change needed. Clearly states that evolution and belief in God can go together but also states the disagreement with the view that "evolution is a purposeless process or that evolution replaces God".
10. While most religions do accept that the human being among all forms of life on earth has a larger spiritual role besides the biological role, some religions may not limit the spiritual role to only humans among all forms of life on earth.
11. This would need to be adapted to refer to other faiths without weakening the stress on the conversation between science and faith on controversial issues being conducted in a very civil and honest manner. The references to the organizations representing religious faiths has to be made very, very carefully. I would like to state that I have great respect and reverence for many of the organizations representing various religious faiths throughout the world, including the Church (various denominations) referenced by this point. The good that they have done, and are currently doing, for humanity, especially the needy - materially needy and/or spiritually needy - sections of humanity, IMHO, is very significant.

That finishes the points from the BioLogos "What We Believe" section.

I would like to humbly add a point for consideration.

- a. We believe that God can be viewed as the embodiment of love and that we should love God with all our heart and all our mind, and that God responds to our love with various expressions of His love. As humans, most, if not all, of us may not be able to really comprehend why a loving God has created pain and suffering in this world but that may be due to our limited understanding and vision.

Reference

[1] Francis Collins – The Language of God: A Scientist Presents Evidence of Belief, Caltech, 2009 – Transcript

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Francis Collins – The Language of God: A Scientist Presents Evidence of Belief, Caltech. 2009 – Transcript

God vs. Science, TIME, Nov. 2006, Dr. Collins - a standard bearer for scientists who believe in God

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Fantastic Espousal of the Good of Religion by Honourable Mr. Tony Blair in Nov. 2010 Debate

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All Posts of God and Science Category in Chronological Order

2.2 September

Ignorant Prof. Dawkins Declares to CNN that on Death, It Just Ends! (2012-09-08 17:25)

Last updated on 11th Sept. 2012

A correspondent who is a Professor in the US sent me the link to this CNN interview of Prof. Dawkins, <http://lightyears.blogs.cnn.com/2012/09/06/dawkins-evolution-is-not-a-controversial-issue/>.

It is nice to note that Dawkins is ensuring that evolution is taught properly in the "Bible Belt" and other parts of the US. The unfortunate aspect of his efforts is that he combines spreading reason and science with an agenda for spreading atheism.

Prof. Dawkins is asked whether on his death, it will just end. His emphatic declaration is, "Of course it just ends. What else could it do? My thoughts, my beliefs, my feelings are all in my brain. My brain is going to rot. So no, there's no question about that."

His words, "Of course it just ends" on death, IMHO, show that he is a scientist who has gone wonky and is not a wise man. How can he assert it? Does he really know? It is an unproven opinion of his - that's it. To clarify, there may be no question that his brain will rot on his death. But it is not proven by science that his thoughts, beliefs and feelings will all disappear on his death. Spiritual masters and mystics who have spoken out of their experience and not only book-knowledge/intellectual analysis have declared/asserted that the beliefs and feelings do not disappear on death of a body.

An acceptable and sensible answer from Prof. Dawkins would have been that I guess it just ends but I cannot be sure.

The sad thing for me is that most parts of the West as well as some parts of the East are so enamoured of science & technology that most readers of such interviews and many other "bookish-knowledge educated" people who have not had any spiritual or religious experiences will take what Dawkins says as the "scientism gospel" truth and start believing that on death, it just ends!

I feel we have to do our bit by spreading the word to the extent that we can that Dawkins is talking through his hat when he ventures into spiritual territory and that he is an ignorant fool when it comes to spirituality. Please excuse the strong words but I feel it is necessary to counter him using his top-scientist image to push atheism into the minds of young (and old) Westerners (and some Easterners who read his stuff), with the truth. And the truth is that he simply does not know anything about what happens after death like most of us. So he should shut up or say he doesn't know. Otherwise he has to be branded an ignorant fool on spiritual matters.

iami1 (2012-10-28 16:12:48)

I got into a conversation on this on the CNN blog: <http://lightyears.blogs.cnn.com/2012/09/06/dawkins-evolution-is-not-a-controversial-issue/comment-page-9/>. But, after a point, my comments were not getting posted though others' comments were getting posted. So perhaps the moderator has blacklisted my id. I have given up retrying to post. Even a partial post having only the @ vincastar-Jerry-fimeilleur: posted with a non iami1 email id (had logged off as iami1 from wordpress at that time) did not appear. So some screening seems to be coming into play which is blocking any comments from me. Well, it is a learning for me about how even CNN seems to block comments if they don't like it without letting the commenter know. So I have posted the comment I intended to post on the CNN blog here. @ vincastar: I prefer not to get buttonholed into definitions on this very elusive and mystical topic as I feel they may be pretty inadequate and so I will skip commenting on that part of your response. My belief is that I am I. Further my belief is that the inner I at the deep core of my being is the same at the core of all of existence, including you, dear vincastar. It is that deep core of all beings I that has projected the whole of existence and which my lower-level consciousness I (as against the expansive higher-level of consciousness I at the deep core of my being) refers to as God. However this is a matter of belief for me and not an experience. Some spiritual masters who are very rare in the human race over centuries and millennia have experienced it and have spoken deep spiritual truths from that experience. So I am I and I am also one of God's and a part of God. You may hold a different view and belief and I respect that belief so long as it provides me the freedom to have my belief. I hope we can amicably agree to disagree on this one :). @ vincastar-Jerry-fimeilleur: Regarding "Science and math support the existence of God." I am not convinced about that from the little that I have read on this topic. But I think Dr. Francis Collins, an American physician-geneticist who was a leader of the Human Genome Project and is currently the director of the National Institutes of Health, USA, puts it very well when he says, "If God has any significance in most religions, God has to be, at least in part, outside of nature, not bound by nature. Pantheists might be an exception but most other religions would certainly agree that God is not limited therefore by nature itself. Science is. Science really is only legitimately able to comment on things that are part of nature and science is really good at that. But if you are going to try to take the tools of science and disprove God, you are in the wrong territory. Science has to remain silent on the question of anything that falls outside of the natural world.", <http://iami1.wordpress.com/2012/08/10/francis-collins-the-language-of-god-a-scientist-presents-evidence-of-belief-transcript/>. So I agree with vincastar that, "Science does not disprove God."

iami1 (2013-08-16 22:02:23)

Here's a compelling account of a Glasgow kid remembering a previous life, with well known psychiatrist and reincarnation researcher, Jim B. Tucker of University of Virginia, USA, http://en.wikipedia.org/wiki/Jim_B._Tucker, <http://www.medicine.virginia.edu/clinical/departments/psychiatry/sections/cspp/dops/staff/jimbio-page>, joining in the investigative journey, "The Boy Who Lived Before - Extraordinary People", <http://www.youtube.com/watch?v=VFHWb7luPno>, 47 min, 08 sec.

iami1 (2013-08-16 22:24:06)

I watched a fascinating program in 2009 on CNN which dealt with near death experiences and what happens after death. The program was CNN LARRY KING LIVE but moderated by Jeff Probst that day instead of Larry King, titled, "Near Death Experiences Explored" and aired on December 22, 2009 - 21:00 (USA) ET. The guests on the program were famous people like Dr. Sanjay Gupta, CNN chief medical correspondent, Dr. Deepak Chopra, famous new age Guru and a medical doctor, Dr. Dinesh D'Souza an author of a book on life after death. Later in the program Dr. Michael Shermer, founding publisher of the Skeptic magazine joins in as well as Prof. Jim Tucker, of University of Virginia, mentioned in earlier comment above. There are some other guests too. Here's a video snippet, http://www.youtube.com/watch?v=6tFDEaH_klo, 5 min. 54 sec. The rush transcript of the program is available here: <http://transcripts.cnn.com/TRANSCRIPTS/0912/22/lkl.01.html>. I was riveted to the telly during this program barring a few interrupts at the door. It was an extremely enjoyable and lively show. An interesting piece of info is that Deepak Chopra mentions in another interview with NBC about Life After Death: [broken link, maybe they removed it from

youtube: <http://www.youtube.com/watch?v=QnL2mku4OCQ>] that, "My father died in meditation consciously, closed his eyes and said give everyone my love and that's how he left - as elegantly as he had lived." I have heard Chopra say earlier that his father was a doctor who served people lovingly (Jabalpur, India, I think was where his father practiced). One hears of many spiritual masters deciding their time of exit. I heard about a Tibetan master telling his disciples that the time has come for him to go. He asked lovingly for a cup of chai (tea in Hindi) (We can truly relate to him ?), had his chai and closed his eyes. That's it. He was gone or rather had given up his body. What a mastery over death! What a conquest!

2.3 October

Epicurean Paradox - A Hindu Take (2012-10-23 14:17)

In an email exchange I was referred to the following Epicurean Paradox (from <http://en.wikipedia.org/wiki/Epicurus>):

Is God willing to prevent evil, but not able? Then he is not omnipotent.

Is he able, but not willing? Then he is malevolent.

Is he both able and willing? Then whence cometh evil?

Is he neither able nor willing? Then why call him God?

— end Epicurean Paradox —

My take on it is as follows:

Is God willing to prevent evil, but not able? Then he is not omnipotent.

My understanding of Hindu philosophy and my belief is that good and evil are two sides of the same coin. Good and bad/evil actions done by living beings are, at least partly, out of choice. E.g. In one case, jealousy may lead a person to hurt another (bad/evil act) whereas in another case a person may overcome pangs of jealousy and not interfere with the happiness of another (not bad/evil act). Similarly one person may be indifferent to another person's suffering whereas a third person may be moved to help the suffering person (good act).

The good and bad actions living beings do, typically, create Karmic effects which they experience later on in this life or a future life. Prayer to God (Divine Power) may give strength to face the fruits of bad Karma, and, in rare cases, cancel the bad Karma. Also, very importantly, at rare points in human history, intense prayer by devotees of God have led to Avatars take form like the Narasimha Avatar and, in this case, kill the evil doer who was harassing the devotee.

But these are beliefs - I certainly do not have solid historical evidence of Narasimha Avatar which is acceptable to scientists. Puranas and similar scripture of other religions may be viewed as myths by many scientists and I can't really fault them for it :).

Is he able, but not willing? Then he is malevolent.

He/It lets it happen but is willing to interfere in Karmic law only on intense prayer or something like that.

Is he both able and willing? Then whence cometh evil?

At least partially answered in above points.

Is he neither able nor willing? Then why call him God?"

He/It is able and willing but only on intense prayer or something like that.

Burden of Proof Argument for Existence of God (2012-10-29 17:21)

Last modified on November 25th 2012

A friend passed on a youtube video link which states that those who claim that a God (with supernatural powers) exists have the burden of proof to support that claim: <http://www.youtube.com/watch?v=KayBys8gaJY>, 11 min, 30 sec.

My take is that "scientific evidence" for existence of Divine power/supernatural power, which is acceptable to the scientific community at large, does not seem to be currently available. Parapsychology investigations seem to be not treated as "scientific" by the scientific community at large. From the Parapsychology wiki, <http://en.wikipedia.org/wiki/Parapsychology>, 'The Parapsychological Association regards the results of parapsychologists' experiments as having demonstrated the existence of some forms of psychic abilities, and proponents of parapsychology have seen it as an "embryo science", a "frontier science of the mind", and a "frontier discipline for advancing knowledge". However, critics state that methodological flaws can explain any apparent experimental successes and the status of parapsychology as a science has been vigorously disputed.' [BTW the Parapsychology wiki is an interesting account of parapsychology efforts and opposition to it.]

So from a regular science point of view it is not known/proven that God/supernatural power exists. Also science cannot state that God/supernatural power does not exist. Only a person who is all knowing can state that God/supernatural power does not exist, and science and scientists do not claim to be all knowing (For more explanation you may want to see Atheism - Strong Atheism section in <http://www.allaboutphilosophy.org/atheism.htm>).

However eyewitness accounts of supernatural power, which are acceptable to many people, are certainly available. Accounts of living and recently passed spiritual masters who had supernatural powers are current and so more easy to verify. But some accounts are ancient like New Testament, Hindu Puranas etc.

Some people are extremely fortunate to have seen and experienced a spiritual master's supernatural power directly in which case they have subjective/individual evidence of that master's supernatural power; or they have heard accounts of such evidence from people whom they consider as very trustworthy sources. So they believe in divine power.

For others it is more difficult as it is natural to doubt such powers. They have a much tougher journey down the faith road. Sometimes it is the influence of preachers/spiritual persons/parents who are of strong faith, which plants the seed of faith in them - that Rama existed, that Krishna existed, that Jesus existed, that Prophet Mohammed existed and that the miracles attributed to them in scripture are mostly/completely true; and that devout prayer to God/divine power gives results even today.

There are scientists and others who consider science to be a wonderful tool to investigate and understand nature but do not consider science to be the only tool to investigate and understand the whole of life. They recognize the tool(s) of religion and/or spirituality to be powerful tool(s) to understand and experience the deep spiritual realities of existence.

But there are also scientists and others who accept only that knowledge which is verified by science as true knowledge. These scientism, <http://en.wikipedia.org/wiki/Scientism>, type of people, IMHO, truly get lost spiritually. Their mind gets conditioned to accept only that knowledge which is accepted by mainstream science and completely reject other sources of knowledge where the standard of proof is lower/different e.g. ancient history, trustworthy eyewitness accounts. Further they may not even accept something that their own inner conscience may prompt! They may doubt it as an imaginary prompting!

2.4 November

Does Presence of Pain and Suffering Imply That There is No God? (2012-11-18 22:00)

One Indian scientist-professor thinks so and has tried to spread that view among the public via a part of a newspaper article. The article argues for inculcating a scientific temper which is fine but goes way beyond the limits of science in its concluding part. The author mentions occurrences of natural calamities like earthquakes in 19th century Europe killing thousands of innocent people, including children which, the author says, convinced many thinking scientists that there is no god.

The author then questions, if there was an almighty god why did he not prevent it. He then states, "The only logical explanation was that there is no god with supernatural powers", <http://www.thehindu.com/opinion/open-page/lets-ignore-science-at-our-peril/article4017252.ece>.

That is a flawed logical conclusion. A correct logical conclusion that can be drawn from the previous statements is that if there was a god with supernatural powers he/it chose not to intervene to prevent the natural calamities.

A further question may be raised as to why did such a god with supernatural powers, if he/it exists, choose not to intervene to prevent the natural calamities. To generalize the question why does god allow pain and suffering? This is a complex theological question for which various religions have various answers.

The following are not definitive answers but some possible answers:

- a) Perhaps it is part of the natural rhythm of existence that there is creation and destruction, pleasure and pain, joy and suffering/sorrow. Perhaps we cannot have one without the other.
- b) Perhaps pain and suffering are triggers which make humans seek higher spiritual states beyond mundane material existence where he/she can transcend pain and suffering. Without pain and suffering humans may not have the motivation to seek higher spiritual states of existence.

Lack of a definitive answer to the above question does not lead to a logical conclusion that there is no god with supernatural powers.

What one can logically conclude is that if a god with supernatural powers exists then he/it does not always use his/its powers to prevent pain and suffering from happening. He/it may be using it on some rare occasions to prevent pain and suffering from happening e.g. miracles of such type claimed/reported by sacred scripture of various religions.

Some Famous Scientists' Views on God and Limits of Science (2012-11-18 22:36)

Last modified on December 6th 2013

Peter Medawar was a Nobel Prize winner (1960) in Physiology and Medicine. The extract below is from his wikipedia page, http://en.wikipedia.org/wiki/Peter_Medawar.

Sir Peter was also a realist in pointing out in his book "Advice to a Young Scientist" that there is no quicker way for a scientist to bring discredit on himself and his profession particularly when no declaration is called for, than to declare that science knows or will know the answers to all questions worth asking. Sir Peter added that questions that do not admit a scientific answer should not be assumed to be non-questions. "We must turn to imaginative literature and religion for suitable answers!"

— end wiki extract —

Here are some interesting quotes of Max Planck, from: http://en.wikiquote.org/wiki/Max_Planck

I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness.

...

Science cannot solve the ultimate mystery of nature. And that is because, in the last analysis, we ourselves are part of nature and therefore part of the mystery that we are trying to solve.

...

As a man who has devoted his whole life to the most clear headed science, to the study of matter, I can tell you as a result of my research about atoms this much: There is no matter as such. All matter originates and exists only by virtue of a force which brings the particle of an atom to vibration and holds this most minute solar system of the atom together. We must assume behind this force the existence of a conscious and intelligent mind. This mind is the matrix of all matter.

...

A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it. [iami1: I found this very human aspect of scientists quite interesting. Perhaps some scientists get very emotionally attached to ideas & models they have lived with for decades.]

...

Under these conditions it is no wonder, that the movement of atheists, which declares religion to be just a deliberate illusion, invented by power-seeking priests, and which has for the pious belief in a higher Power nothing but words of mockery, eagerly makes use of progressive scientific knowledge and in a presumed unity with it, expands in an ever faster pace its disintegrating action on all nations of the earth and on all social levels. I do not need to explain in any more detail that after its victory not only all the most precious treasures of our culture would vanish, but — which is even worse — also any prospects at a better future.

[iami1: I think the words, "disintegrating action", of Max Planck written perhaps in the mid-twentieth century apply very well to atheism spreading scientists and professors of science today in 2013 in countries where faith in God plays a very important integration role.]

—end wikiquotes of Max Planck —

The wikipedia page on Max. Planck, http://en.wikipedia.org/wiki/Max_Planck, has a section on his religious view. The initial part of it shows that he believed in God and respected religion, 'In a lecture on 1937 entitled "Religion und Naturwissenschaft" he suggested the importance of these symbols and rituals related directly with a believer's ability to worship God, but that one must be mindful that the symbols provide an imperfect illustration of divinity. He criticized atheism for being focused on the derision of such symbols, while at the same time warned of the over-estimation of the importance of such symbols by believers.' [iami1: I think that is a very balanced view. I particularly liked the criticism of atheism being derisive of imperfect symbols of divinity.]

...

[iami1: But Max Planck did not believe in miracles (which would have included the miracles mentioned in the New Testament related to Jesus Christ):]

[From the wikipedia page again] On the other hand, Planck wrote, "...to believe' means 'to recognize as a truth,' and the knowledge of nature, continually advancing on uncontestedly safe tracks, has made it utterly impossible for a person possessing some training in natural science to recognize as founded on truth the many reports of extraordinary contradicting the laws of nature, of miracles which are still commonly regarded as essential supports and confirmations of religious doctrines, and which formerly used to be accepted as facts pure and simple, without doubt or criticism. The belief in miracles must retreat step by step before relentlessly and reliably progressing science and we cannot doubt that sooner or later it must vanish completely."

...

[iami1: And neither did he believe in a personal God, at least later on in life, (I think divine figures with reported paranormal powers like Rama, Krishna, Jesus are considered to be personal Gods):]

[From the wikipedia page again] Later in life, Planck's views on God were that of a deist. For example, six months before his death a rumour started that Planck had converted to Catholicism, but when questioned what had brought him to make this step, he declared that, although he had always been deeply religious, he did not believe "in a personal God, let alone a Christian God."

— end wikipedia extracts related to Max Planck —

Schrodinger (1961) claims that the Vedic slogan "All in One and One in All" was an idea that led him to the creation of quantum mechanics. From: http://www.endlesssearch.co.uk/science_scientistmystics.htm.

Albert Einstein has been portrayed by some atheism spreading scientists and others as an atheist. But that seems to be incorrect. Here are relevant extracts from http://en.wikipedia.org/wiki/Religious_views_of_Albert_Einstein.

On 24 April 1929, Einstein cabled Rabbi Herbert S. Goldstein in German: "I believe in Spinoza's God, who reveals himself in the harmony of all that exists, not in a God who concerns himself with the fate and the doings of mankind." [iami1: From this we can conclude that Einstein did not believe in supernatural Divine responses to prayer i.e. an interventionist God.]

...

"I cannot conceive of a God who rewards and punishes his creatures, or has a will of the type of which we are conscious in ourselves. An individual who should survive his physical death is also beyond my comprehension, nor do I wish it otherwise; such notions are for the fears or absurd egoism of feeble souls. Enough for me the mystery of the eternity of life, and the inkling of the marvelous structure of reality, together with the single-hearted endeavour to comprehend a portion, be it never so tiny, of the reason that manifests itself in nature." [iami1: So Einstein seemed to believe, like Dawkins, that on death it just ends, which goes against the revelations of scripture of many religions and experiences shared by spiritual masters and mystics. Further Einstein did not believe in Karma or equivalent.]

...

Einstein rejected the label atheist, which he associated with certainty regarding God's nonexistence. Einstein stated: "I have repeatedly said that in my opinion the idea of a personal God is a childlike one. You may call me an agnostic, but I do not share the crusading spirit of the professional atheist whose fervor is mostly due to a painful act of liberation from the fetters of religious indoctrination received in youth. I prefer an attitude of humility corresponding to the weakness of our intellectual understanding of nature and of our own being." According to Prince Hubertus, Einstein said, "In view of such harmony in the cosmos which I, with my limited human mind, am able to recognize, there are yet people who say there is no God. But what really makes me angry is that they quote me for the support of such views."

[jami1: So Einstein seemed to look down upon people who believe in a personal God. http://en.wikipedia.org/wiki/Personal_God states, 'A personal god is a deity who can be related to as a person instead of as an "impersonal force", such as the Absolute, "the All", or the "Ground of Being"! So Jesus, Rama, Krishna etc. when looked upon as human beings infused with Divine force/supernatural power would be personal Gods and Einstein looked down upon people who believed in such deities. However he clearly is against any portrayal of him as supporting views that there is no God! Further he clearly recognizes the weakness of his/human "intellectual understanding of nature and our own being".

To summarize, Einstein definitely was *not* an atheist, neither was he a believer in an interventionist God or a personal God. But he believed in a God "who reveals himself in the harmony of all that exists".]

— end extracts —

Note that the text extracts from Wikipedia and Wikiquote that appear on this page are available under the Creative Commons Attribution-ShareAlike License.

Praying Openly While Doing a PhD (2012-11-18 22:55)

Last modified on November 19th 2012

A correspondent sent me an anecdote. I have given it below in a slightly edited form.

A student who had done his undergraduate studies (and maybe post-graduate too) in a holistic, spiritual-cum-secular knowledge Indian university was doing his PhD abroad. Everyday, when he entered his office / lab in the morning, he used to pray for a few minutes and then start his work. His lab mates had observed him for quite some time and then quizzed him about it as follows:

"You seem to pray everyday. What if God does not exist ?"

The student replied politely, "If God does not exist, by praying I would have wasted only 5 minutes a day. Whereas if HE did exist, then by not praying at all I would have wasted my entire life !!"

This would be as good an answer as any we might hear !! :-)

Is Believing in a Personal God Childish? (2012-11-20 17:49)

Last updated on 21st November 2012

http://en.wikipedia.org/wiki/Personal_God states, 'A personal god is a deity who can be related to as a person instead of as an "impersonal force", such as the Absolute, "the All", or the "Ground of Being".'

So Jesus, Rama, Krishna etc. when looked upon as human beings infused with divine force/supernatural power would be personal Gods. Many intellectuals look down upon people who believe in such deities, as childish people. Einstein seemed to hold this view as per a letter of his, <http://www.dailymail.co.uk/news/article-2213513/Albert-Einstein-letter-uses-say-religion-childish-goes-auction-1-85MILLION.html>. Some scientists today are strongly influenced by Einstein's views and tend to have the same attitude.

Advaita Vedanta has the view that one's inner self itself is God. But the view that I am God (an all powerful, all knowing being) is so counter to the experience of almost all of humanity that it is not acceptable to most of humanity, even if it were to be the ultimate truth which gets experienced only by the very, very, very rare fully enlightened beings.

In marked contrast, viewing God via an image, or as a divine force enveloping and controlling all of existence, of which we are a small part, to which we can pray to and get strength, and even have some of our wishes fulfilled is what appeals to most of humanity. Of course, the Abrahamic religions reject image worship but they consider God to be a divine power far greater than themselves (I am of God but not I am God - I think that is their view).

The history of humanity has these very, very powerful divine figures like Krishna, Jesus etc. who exhibited extraordinary powers. People could pray to them/God through them and get their wishes fulfilled! And they pray to them even to this day with some getting the divine response. Further, even in this day and age, some people are hugely fortunate/blessed to have experienced the mind-blowing divine power of living spiritual masters and mystics.

I am of the opinion that it is not childish to view the all encompassing divine power through a personal God like Jesus, Krishna etc. Even for an intellectual it may be far easier to pray to a personal God at times as against praying to a nameless and formless divine power. Some persons may, at different times depending on their state of mind, pray to a personal God like Jesus or Krishna, or to a nameless and formless divine power considered to be either within their own being or outside of their being. In other words they may pray to either the outer God or the inner God depending on their state of mind.

Enlightened spiritual masters tell us that intense prayer has its effect whether the prayer is directed to a personal God or to an impersonal God/divine force. They encourage belief in a personal God for suitably inclined people and forcefully reject notions that such belief is childish or wrong.

3. 2013

3.1 July

What I am Joyful about Being a Hindu (2013-07-25 14:34)

28th July 2013 Update: This article seems to have got pulled off Google search engine results. I presume that is because of certain sentences in it which may have been deemed communally sensitive. My intent is not to increase communal issues but to decrease it and bring more peace and joy :). So I have attempted to reduce sensitivity of this article by suitably editing it. I wonder whether Google search engine folks will have this article back in its search results now.

In response to Mr. Ramchandra Guha's recent article in a mainstream Indian newspaper I had written a mail to him (and the newspaper's Letters section). The following is a slightly edited version of its contents.

I read Mr. Guha's article, "What Hindus can & should be proud of", in The Hindu dated 23rd July 2013.

I agree with Mr. Guha that the 1971 war victory was achieved by an Indian army consisting of people from various faiths.

I also agree that Babri Masjid demolition is not something which should fill Hindus with pride. Given India's very turbulent history since the Mughal invasion such 'revenge' attitude can create horrific tension and bloodshed as we already have seen. In my humble view, for such centuries old matters, forgive and forget is what the great Hindu saints and Avatars would advise.

Regarding the "story of Hindu pride" part of the article, I agree that Hinduism has had horrific caste prejudice over centuries and the great Hindu reformers mentioned in the article have played a vital role in reducing or removing many of these horrific prejudices. Given the reports of atrocities on Dalits that one reads about, it is clear that a lot more needs to be done on this front.

However the article does not seem to mention saints and mystics of Hinduism or associated with Hindus, who were above such caste and other prejudices. They taught and practiced all embracing forms of Hinduism (and other religions too in some cases) which appeal to Hindus of all castes and many non-Hindus too. I am joyful about being a Hindu due to these masters and I thought I should mention some of them below:

- Meera whose devotion to Krishna won the admiration of Emperor Akbar and may have played a role in Akbar's multi-faith initiatives and tolerance.
- Sant Kabir who was a student of a Hindu master and who taught a wonderful path of love beyond narrow ritualistic boundaries of religion
- The great Maharashtrian Bhakti saints of Tukaram, Namdev and Eknath as well as the Jnani Gnaneshwar.
- How Hindus accepted the spiritual power and grace of the outwardly dressed Muslim, Shirdi Sai Baba. Fascinatingly, he lived in a then dilapidated Masjid which he named Dwarkamayi - a Hindu name - but would, it is written, frequently refer to Allah (Allah Maalik). I am very joyful about so many Hindus having accepted the teachings of

Shirdi Sai Baba, including the simple but very powerful statement, 'Sabka Maalik Ek', and the devotion to Shirdi Sai Baba among Hindus being seen in many places across the country today.

- Chaitanya Mahaprabhu showed the joyous path of chanting the name of the Lord and dancing in joy. Today's worldwide ISKCON movement draws inspiration from that figure.
- The article mentioned Vivekananda but not his master, the great mystic Ramakrishna, who showed the path of Bhakti to so many people and continues to inspire the Ramakrishna mission.

I am not so well versed about South India's great Hindu saints of the past few centuries. So I will just mention some names: Bhadrachalam Ramdas, Yogi Vemana, Purandara Das, Raghavendra Swami, Annamacharya, Thyagaraja ...

I am particularly joyous about being a Hindu as this religion produced in the recent past, great Advaita masters like Ramana and Nisargadatta.

Please note that I am not mentioning names of contemporary Hindu mystics and spiritual masters to avoid controversies.

3.2 October

Consolidated Blog Content Document (2013-10-24 14:21)

For those viewers who would like to download and read a single pdf file of 35 pages having all the iami1 blog post content which is (largely) authored by iami1, here is that document having the content as of October 29th 2013.

Please note that this excludes two posts which have content authored/owned by others (not iami1) who gave permission to use that content in the iami1 blog. These post titles and their associated links are given towards the end of the document.

The above mentioned document (and this blog, of course) captures my humble exploration of and views on the God & Science conversation. The document (and this blog) also has a few posts on spiritual matters unrelated to the God & Science conversation.

When teachings of religions or miracles mentioned in Holy Scripture are referred (in the above mentioned document and this blog), as far as I recall, no mention is made of any contemporary or near-contemporary religious leader - the attempt is to emphasize spiritual teachings/paths/philosophy/knowledge which may be viewed as universal though the Hindu way of expressing them is used. It must also be mentioned that a few posts are specific to Hinduism.

3.3 December

There is no God and Dirac is His prophet - Wolfgang Pauli (2013-12-04 16:09)

I recently came across this wonderful article by Werner Heisenberg capturing discussions between some top physicists in the 1920s on Science and Religion, <http://edge.org/conversation/science-and-religion>. The primary discussion was between Wolfgang Pauli, Werner Heisenberg and Paul Dirac, and their discussion involved views of Einstein and Planck on Science and Religion. Later in the article Niels Bohr's views on the matter are brought in. These names are the iconic figures of Quantum and other "modern" Physics areas. During my Physics graduation days in the early 80s in a college rather well known (then - I don't know the position now) in Mumbai for science, <http://www.ruiacollege.edu/>, these names were mentioned with awe by some of the faculty, and that rubbed on to the students including me. Even today I am awed by the intellectual accomplishments of these top physicists and I also recognize that my knowledge of Physics is too limited to even properly appreciate their awesome contribution to it.

Today I guess I am more a man of religion than of technology (software development) let alone science. So I thoroughly enjoyed reading their views on science and religion! If you are into the science and religion conversation I think the above mentioned article is a must-read.

I loved one particular quote from this article. Dirac argued against belief in God and Heisenberg argued against a simple dismissal of religion. Pauli was silent but when asked for his opinion said, "Well, our friend Dirac, too, has a religion, and its guiding principle is: 'There is no God and Dirac is His prophet.'"

I just loved it! This one-liner, IMHO, applies very well to some scientists and rationalists today who are convinced that there is no God and that its time humanity gives up God and religion, and aims for a post-theistic society.

Very interestingly, after Pauli's punch-line, all three, Heisenberg, Dirac and Pauli laughed and brought the discussion to a close. It is so nice to note the polite and friendly environment in which this discussion took place.

The impression I have is that most Indian scientists tend to avoid publicly discussing the science and religion topic. It perhaps is too sensitive to critically examine religious views of iconic science figures like Einstein or Planck and critically appreciate the publicly espoused Christian faith of a current day top scientist like Francis Collins. Perhaps Indian scientists have had some unhappy experiences in this connection in the past. I certainly acknowledge that criticism of religion (and it surely does have many flaws, IMHO) by well meaning Indian scientists and rationalists is not politely accepted in many sections of Indian society.

I think we should endeavour to change the charged atmosphere for such debates and have polite and civilized debates like what Heisenberg, Dirac and Pauli had. IMHO, such a change will help people get the best of both science and religion.

4. 2014

4.1 February

Sam Harris vs. Reza Aslan - 2007 Debate on Religion and Reason - Part-transcript (2014-02-06 14:47)

Here is a very interesting (to me) video of a 2007 debate on Religion and Reason between Sam Harris and Reza Aslan. From [http://en.wikipedia.org/wiki/Sam_Harris_\(author\)](http://en.wikipedia.org/wiki/Sam_Harris_(author)), "Samuel B. "Sam" Harris (born April 9, 1967) is an American author, philosopher and neuroscientist, as well as the co-founder and CEO of Project Reason." and "Harris is a contemporary critic of religion and proponent of scientific skepticism and the "New Atheism". He is also an advocate for the separation of church and state, freedom of religion, and the liberty to criticize religion. Harris has written numerous articles for The Huffington Post, Los Angeles Times, The Washington Post, The New York Times, Newsweek, and the journal Nature. His articles touch upon a diversity of topics, including religion, morality, neuroscience, free will, terrorism, and self-defense."

I think Richard Dawkins and Sam Harris are perhaps the most prominent anti-religion scientist-atheists in the world today.

However Harris does acknowledge the reality of spiritual experiences. An interesting extract of Harris from the part-transcript is given below:

"The reality is, it is possible for a person to close their eyes and use their attention in a certain way such that they no longer feel separate from the universe, say. You know, they felt it was just me a moment ago and then all of a sudden there's just the world. Okay. That is an experience that is replicable, that we can all have, that many of us I'm sure have had. Most people, most of the time have had these experiences in the context of a religious tradition and they have interpreted them by the light of their religious tradition. The problem with this process is that it is not in the scientific spirit encouraging of rigorous honesty. It is encouraging of dogmatism and metaphysical speculation and ... Yes, there are diamonds in the dunghill of religion. You know, Rumi and Meister Eckhart are attesting to a kind of experience that I think we should all be desperate to have. The problem is we need to talk about it honestly ..."

So Sam Harris may well agree with the philosophy of Advaita. But he may not believe that intense prayer can result in miracles that break laws of material sciences like physics & chemistry (materialization miracles) or knowledge of medical science (healing miracles).

From http://en.wikipedia.org/wiki/Reza_Aslan, "Reza Aslan (... born May 3, 1972) is an Iranian-American writer and scholar of religions. He is an Associate Professor of Creative Writing at the University of California, Riverside, a Research Associate at the University of Southern California Center on Public Diplomacy, and a contributing editor for The Daily Beast. His books include the international bestseller No god but God: The Origins, Evolution, and Future of Islam, which has been translated into 13 languages, and Zealot: The Life and Times of Jesus of Nazareth, which offers an interpretation of the life and mission of the historical Jesus." At the time of the debate his most famous book seems to be "No god but God ...".

While I do not agree with all that Reza Aslan said in the debate I thought he articulated the case for religion very, very well.

Interesting extracts from the part-transcript spoken by Reza Aslan: "I mean, the entirety of human history is inextricably bound to religion, cannot be divided ... the conception of religion as a language - we are tossing this word

religion around a lot. We should figure out what we mean when we say it. Religion is the language through which one describes the transcendence. And by transcendence I don't mean anything more complicated than that which lies beyond our material realm, our experience of the material realm. We need a means through which we can describe this, through which we can express it to ourselves and more importantly to one another. And religion provides that language." ... "The comment you made about scriptures and how to understand (them) - very, very good question. The way that I think that, you know, scholars of religion, historians of religion like Jonathan and myself, the way we look at religions or scriptures is essentially as a documentation of this sort of experience, this historical experience of the transcendence and the human need to sort of express that through symbols and through metaphors, through stories, through sacred history."

A Part-transcript of the debate is available as a comment on the youtube video page of the debate. You can access the comment and the video here. The comment has been made on 5th February 2014 and has the username as Ravi S. Iyer.

4.2 July

Deepak Chopra's One Million Dollar Challenge to the Skeptics to explain the hard problem of consciousness (2014-07-14 22:13)

Last updated on 19th August 2014

Dr. Deepak Chopra's One Million Dollar Challenge to the Skeptics, <https://www.youtube.com/watch?v=Up6GqgBK5Qo>, 5 min. 36 secs, published on Jun.14th 2014

I have transcribed (to text) the challenge as a comment in the same youtube page here: https://www.youtube.com/watch?v=Up6GqgBK5Qo&google_comment_id=z133sjz5ulmujtayd04ci1bpmnbiprpxs0k

I have also provided the same transcript below:

This is Dr. Deepak Chopra and I am issuing a challenge to the amazing Randi and all his colleagues, ... his so-called militant atheist friends and professional debunkers.

Dear Randi, before you go around debunking the so-called paranormal, please explain the so-called normal. How does electricity going into the brain become the experience of a 3-dimensional world (in) space and time. If you can explain that then you get a million dollars from me. Explain and solve the hard problem of consciousness in a peer-reviewed journal. Offer a theory that is falsifiable and you get the prize. OK?

The problem with you and your cronies is that you are bamboozled by the superstition of matter. You don't realize that everything we experience as the physical world is actually a perception. And that perception is the result of an experience in consciousness. And we have no idea how that happens. If I ask you to imagine a sunset on the ocean right now and you have the experience somewhere then explain to me where that picture is.

And don't just give me a neural correlate or NCC as it's called. Neural correlates of consciousness are well

known but they are not good enough explanation for how we experience the world. How we experience colour, taste, sound, form, any perception. (Can't) explain it - texture, solidity - you cannot explain that. We can't even explain how do we have the perceptual experience of our own body. Or our thoughts, intuition, insight, imagination, creativity, cognition, self-reflection.

And once again, neural correlates are not causation. So when I asked you to think of that sunset there was neural correlate. But it wasn't there till you had the experience or you had them simultaneously or one before the other, it doesn't matter. You had intention. Explain to me, intention.

So until you explain the normal, why are you wasting your time in debunking the paranormal. Experience is experience, whether it is so-called normal or it is so-called paranormal, and we have no explanation for either. OK.

So if you can give a scientifically viable, falsifiable theory published in a peer-reviewed journal, you or any of your cronies including Dawkins, Shermer and the whole gang, then you get a million dollars from me. And I will be happy to present you the cheque on Television, on national media. So that's my challenge, you guys. You take such pride in saying that the so-called paranormal is a perceptual trick, a magic show, explain to me the ultimate magic show which is the universe.

Do it guys. I know your conference is coming up ... visit the amazing whatever-you-call-it ... you self-appointed vigilantes for the suppression of curiosity and imagination and legitimate science, have a good time at your conference. Keep congratulating yourselves as being amazing when you are all naive realists. You don't know one thing about consciousness. You are superstitious and actually believe that your perceptions give access to you of reality.

And for Richard Dawkins, of course, you (are) going to respond by calling this willful obscurantism because you don't understand the language. Just as you don't understand the language on my T-shirt unless you happen to be a native of the culture that speaks that language. So Dawkins stop being a willful ignoramus and try (to) understand normal experience before you talk about reality.

All the best guys. Congratulate yourselves and continue to congratulate yourselves as amazing. But do know that what you really need is epistemic humility, transcendence, a sense of reverence for existence and also gratitude.

— end transcript —

Ravi: I really liked the last sentence, "But do know that what you really need is epistemic humility, transcendence, a sense of reverence for existence and also gratitude." It is this kind of attitude that opens up the intuitive and spiritual faculties in us.

BTW I did not know the meaning of "epistemic humility". <https://in.answers.yahoo.com/question/index?qid=20111016172456AAvJ63> b gave me some idea.

I think it is a terrific challenge from Dr. Deepak Chopra to the militant skeptics and atheists. Some of the language may come across as harsh but then I think the militant skeptics and atheists (as against plain atheists and skeptics) also use similar language.

Here are a few interesting blog posts about this challenge:

- a) <http://www.huffingtonpost.com/deepak-chopra/skepticism-and-a-million-b-5522690.html>, 24th June 2014 (Deepak Chopra explains why he pushed back on the militant atheists and skeptics with his challenge). A small extract, "As one of the major confronters, I'd say that my primary goal is to defend the truth of spirituality. The world's wisdom traditions are just as precious as science. To lump them together as arrant charlatanism (as if Buddha

and Jesus stand on the same level as a stage magician or con man) is grossly misleading. To dress up this hostile attitude as scientific and rational only deepens the deception.”

b) <http://hpanwo-voice.blogspot.in/2014/07/chopras-challenge.html>, 12th July 2014.

c) [http://www.newstatesman.com/future-proof/2014/07/deepak-chopra-doesn’t-understand-quantum-physics-so-brian-cox-wants-1000000-him](http://www.newstatesman.com/future-proof/2014/07/deepak-chopra-doesn-t-understand-quantum-physics-so-brian-cox-wants-1000000-him), 7th July 2014 (has tweet arguments, more like a slanging match actually, between Deepak Chopra and Brian Cox, with Cox starting the slanging match)

5. 2015

5.1 January

Conversation on 'secular parenting' & religion between USA scientist & Indian technologist (2015-01-29 12:30)

Last updated on February 5th 2015

Here's the pdf document version of Conversation on 'secular parenting' & religion between USA scientist & Indian technologist. And here's the Word document version (same content) of Conversation on 'secular parenting' & religion between USA scientist & Indian technologist. The deep indentation formatting requirements of the document/post was difficult to be done using this blog's editor (it would have required elaborate hand-coded HTML tables, IMHO) and so it has been provided in pdf and Word document versions linked above.

5.2 July

Why I shy away from comparisons between Physics theories like Higgs field and deep spiritual philosophy like Vedanta? (2015-07-27 14:54)

Note: I am really out of touch with Quantum Physics and Particle Physics type of stuff though I majored in Physics in college (B.Sc. Physics from Ruia college, Mumbai university) over three decades ago. [I also did about six months of M.Sc. Physics (specializing in Electronics) in Mumbai university, then (1983), before dropping out due to funds problem.]

This is a discussion about the Higgs Field/Higgs Boson and perceived misconceptions about it due to popular explanations given by science writers which when taken in a literal sense and compared with deep spiritual philosophy like Vedanta, may be open to criticism by scientists who choose to find holes in the literal text rather than interpret it more broadly/spiritually.

Both the simple wiki page, https://simple.wikipedia.org/wiki/Higgs_boson, and the regular wiki page, https://en.wikipedia.org/wiki/Higgs_boson, confirm that Higgs field gives (many) particles Mass. The simple wiki states, "The Higgs boson (or Higgs particle) is a particle that gives mass to other particles."

The regular wiki page states:

a) The Higgs mechanism is a mathematical model devised by three groups of researchers in 1964 that explains why and how gauge bosons could still be massive despite their governing symmetry. It showed that the conditions for the symmetry would be 'broken' if an unusual type of field happened to exist throughout space, and then the particles would be able to have mass.

b) Some years after the original theory was articulated scientists realised that the same field would also explain, in a different way, why other fundamental constituents of matter (including electrons and quarks) have mass.

Ravi: So a) & b) together would apply to all (other than Higgs boson itself) fundamental constituents of matter (particles), and therefore seems to be consistent with the simple wiki's statement given above. [I say seems to be, as I really am out of touch with Physics and am on somewhat slippery territory :-). So my logic in this analysis can certainly have some flaws.]

Now, it should be recognized that Higgs boson or field is related to Standard Model in physics. And, from the simple wiki page, "Scientists do not yet know how to combine gravity with the Standard Model." So even with Higgs boson and field being accepted as proven by mainstream science, gravity is not explained by Standard Model! So that seems to me to be a big hole in the Standard Model theory when trying to use it to explain all phenomena. Further, for accuracy purposes, from the regular wiki page, "As of 2013, scientists are virtually certain that they have confirmed the Higgs boson exists, and therefore that the concept of some type of Higgs field throughout space is proven." So the right term is virtually certain and NOT certain. That indicates there may be some serious naysayers/doubters even now among the scientific community.

Photons are massless. So I guess Higgs field may not have much impact on photons.

After writing most of the above content, I came across this blog post from, presumably, a Physics Professor, Why the Higgs and Gravity are Unrelated, <http://profmattstrassler.com/2012/10/15/why-the-higgs-and-gravity-are-unrelated/>. Some extracts from it [As this blog post is free for readers, and does not have any financial profit motive associated with it, I have presumed Prof. Matt Strassler may not mind me sharing the following extracts of his article]; [Readers may please note that Prof. Strassler does use some strong words like glib and naive, and are requested to be tolerant of Prof. Strassler using these strong words]:

What about the Higgs field being the source for all mass in the universe? This statement, though you will often find it in the press or in glib articles written for the public, is false.

What is the true statement? Well, here is a list of the elementary particles that we know about so far. The massless ones are

photons, gluons, gravitons (the latter presumed to exist)

while the ones with mass are

W and Z particles

quarks: top, bottom, charm, strange, up, down

charged leptons: electrons, muons, taus

neutrinos: three types (at least two and probably all three with small masses)

the recently discovered new particle with a mass of 125 GeV/c² (which I will assume for now is a Higgs particle of some type)

Now it is true that the W and Z particles, the quarks, the charged leptons and the neutrinos must get their mass from a Higgs field. It's not possible for them to have masses any other way. But this is not true of the Higgs particle itself.

...

No matter how you view it, the Higgs field is not the universal giver of mass to things in the universe: not to ordinary atomic matter, not to dark matter, not to black holes. To most known fundamental particles, yes — and it is crucial

in ensuring that atoms exist at all. But there would be just as much interesting gravitational physics going on in the universe if there were no Higgs field. There just wouldn't be any atoms, or any people to study them.

...

So — the guess that the Higgs has something to do with gravity is natural for a non-expert, but I am afraid it is naive; it comes from misunderstanding both

1. the Higgs field, which is not universal: it gives masses to most of the known elementary particles but not to the Higgs particle itself, and not to protons and neutrons, dark matter (most likely), or black holes,
2. and Einstein's gravity, which is universal and has to do with energy and momentum but not mass directly, and most certainly does pull on protons and neutrons, dark matter and black holes even though their masses don't come entirely from the Higgs field.

It's really true: despite appearances at first glance, the relation between gravity and the Higgs is just skin deep.

— end extracts from <http://profmattstrassler.com/2012/10/15/why-the-higgs-and-gravity-are-unrelated/> —

Ravi: So, I think at least some serious physicists do NOT view Higgs field as a "universal ether" kind-of thing.

A view that Higgs field is like Brahman which projects material world is really tricky (from the viewpoint of literal meaning that some physicists/scientists may choose to take to criticize the statement). Yes, Higgs field gives mass to many particles. But can one extend that to say that Higgs field is like Brahman which projects material world? From a literal meaning point of view, that seems to be quite some stretch. Higgs field seems to have very limited or no relation to photons and does not seem to come into the picture for explaining gravity. Material world needs photons (light consists of it, according to accepted Physics of today, if I am not mistaken), and most of us humans experience gravity all the time. I mean, unless a reputed physicist used the phrase that Higgs field is like Brahman which projects material world, many physicists/scientists will not treat the phrase seriously. I mean, they may treat it as a popular science writer's over-simplification or extra imagination. Sorry if the words sound harsh, but even if I did not get into a profession related to Physics, the Physics I studied tells me that some physicists/scientists may view it as over-simplification.

BTW the regular wiki page has a DIRECT DISAGREEMENT with the molasses analogy/metaphor mentioned in popular press (See Sarewitz article referencing New York Times article using molasses analogy, <http://www.nature.com/news/sometimes-science-must-give-way-to-religion-1.11244>). It states, "Various analogies have also been invented to describe the Higgs field and boson, including analogies with well-known symmetry breaking effects such as the rainbow and prism, electric fields, ripples, and resistance of macro objects moving through media, like people moving through crowds or some objects moving through syrup or molasses. However, analogies based on simple resistance to motion are inaccurate as the Higgs field does not work by resisting motion."

That seems to me to be a strong enough statement not to make serious comparisons between Higgs field and molasses or Hindu scripture, sea of milk (mentioned in Sarewitz article above, but clearly indicating that it is not an accurate characterization and mentioning that it may be as valid (or invalid) an analogy as the molasses one). I mean, those analogies may be fine for casual writing to reach out to lay readers. But it is NOT FINE for serious discussion.

More general discussion about Physics theories and comparison to Vedanta

Now let me stretch my neck out. I think I may open myself up to strong criticism from Physicists who care to read and comment on what I will now say. I think the "holy grail" of Physics, for good part of the 20th century continuing on to today, is a unified field and accompanying unified theory that explains all kinds of forces and all

physical phenomena. It was Einstein's dream and he did not achieve that dream. String theory is said to hold promise as the theory of everything (Physics wise), but I have been hearing about that promise it holds for long, without it having achieved the goal so far.

I don't think Higgs field even attempts to be that kind of unified field theory. From https://en.wikipedia.org/wiki/Unified_field_theory, "In physics, a unified field theory (UFT), occasionally referred to as a uniform field theory, is a type of field theory that allows all that is usually thought of as fundamental forces and elementary particles to be written in terms of a single field. There is no accepted unified field theory, and thus it remains an open line of research. The term was coined by Einstein, who attempted to unify the general theory of relativity with electromagnetism. The "theory of everything" and Grand Unified Theory are closely related to unified field theory, but differ by not requiring the basis of nature to be fields, and often by attempting to explain physical constants of nature."

Ravi: Classical physics (also referred to as Newtonian Physics, if I recall correctly), seemed to me to be a pretty meaningful set of theories and also seemed to match with human intuition. Take Newton's laws of motion, for example. I did not find it counter-intuitive.

But Classical Physics could not explain certain phenomena. Einstein, Heisenberg, Planck, Dirac, Schrodinger etc. (with Bohr joining in, if I am not mistaken) came along and Quantum Physics became the big thing as it could explain some of the hitherto unexplained phenomena. And then we had mind-boggling progress in both science and its applications that made a big impact on the world. So today Quantum Physics is a pillar of Physics, with Classical Physics being an approximation of it.

But Quantum physics has so much of counter-intuitive stuff. Speed of light is constant - that's a postulate (essentially, an assumption), Planck constant with a specific value $(6.62606957(29) \times 10^{-34} \text{ J.s})$, dual wave-particle nature, a special theory of relativity and a general theory of relativity etc. And then the horrendous Mathematics, Quantum physics involves. It is not elegant stuff, if you ask me. It is nowhere near the elegance of Classical physics.

But Quantum physics explained phenomena that classical physics could not. No matter how inelegant and counter-intuitive it was, no matter how horrendous the Math, Quantum Physics won handsomely at explaining some unexplained matters. So it has become the accepted Physics of our day.

Can the laws of material phenomena be so inelegant? Or has science (and its associated math) not got the right theories yet?

In marked contrast, I have found Hindu scripture (Vedanta, and, in my case, to a lesser extent, Bhagavad Geetha) & mystics' explanations of underlying spiritual rules or laws (like Karma in Hindu, Buddhist & Jain philosophies) and the overall spiritual theory of existence (man being trapped into illusion due to desires that cloud his inner reality which is a changeless eternal truth, one brahman projecting the entire illusive world, essence of all being the same brahman etc.) to be so elegant and intuitive. I say, intuitive, in that it jells with one's inner being. Something inside says, Yes, that's right when one reads and contemplates on such scripture/philosophy/revelations/teachings.

Today's Physics is nowhere near as elegant and as intuitive as deep spiritual explanations of existence, like in Vedanta (I don't know enough about deep spiritual stuff in other religions/philosophies and so am not mentioning them). So I tend to shy away from comparisons between some (typically inelegant) Physics theory which gains currency/gets validated, and very elegant deep spiritual philosophy like Vedanta.

gads

BlogBook v0.5,
 $\text{\TeX} 2\text{\tiny E}$ & GNU/Linux.
<http://www.blogbooker.com>

Edited: October 12, 2015

